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WIND-TUNNEL TESTS OF A 1/20-SCALE AIRSHIP MODEL WITH STERN PROPELLERS

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SUMMARY

An investigation has been conducted in the Langley full-scale tunnel on a 1/20-scale airship model to determine the characteristics of stern-mounted propellers (or wake propellers) and the effect of the propellers on the airship. The investigation included tests of two different propellers and included measurements of propeller thrust and power characteristics, airship force and moment characteristics, hull pressure distributions, and hull boundary-layer and wake characteristics. The tests were conducted for several propeller-blade angles and rotational speeds for test velocities of about 94 ft/sec and 139 ft/sec.

The test results showed that a stern-mounted propeller can give a much higher propulsive efficiency than that of a conventional-mounted- or a fin-mounted-propeller installation. This increased efficiency should result in increased range and endurance for the stern-propeller configuration. In general, stern-propeller operation was found to have only very small effects on the model aerodynamic characteristics.

INTRODUCTION

For many years the idea of a stern-mounted propeller or a wake propeller for airships has been suggested as a means of improving the propeller efficiency. A few sporadic wind-tunnel tests and theoretical analyses have been made and in most instances the conclusion reached was that a propeller designed to operate in the airship wake would operate more efficiently than a conventional-propeller installation. Recent developments have shown the need for longer endurance flights of airships used for aircraft early warning and submarine detection missions which would require configurations having a more efficient propulsive system. The stern-mounted propeller would have further advantages for

the longer endurance flights by providing some relief of aircrew fatigue and detection instrument inaccuracies resulting from the noise and vibration of a normal close-proximity propeller installation.

Because of these apparant advantages of the stern-propeller configuration, it was decided that this type of configuration should be investigated. It was decided, however, that a propeller should be designed specifically for the airflow conditions existing at the intended propeller plane. These airflow conditions had been obtained during previous unreported wind-tunnel tests conducted in the Langley full-scale tunnel by Marvin P. Fink on the same airship hull.

In order to check the theories involved in the design of a stern propeller, two different approaches to the problem were made. The results gave two dissimilar wake propellers for use on a 1/20-scale model airship designed for wind-tunnel tests in the Langley full-scale tunnel. One propeller was designed by using the best available theories as a 4-blade, 2-foot-diameter, twisted and tapered propeller having a propeller solidity of 0.129 and Clark Y airfoil sections. The other propeller, for reasons of simplicity, was designed as a 3-blade, 1.37-foot-diameter, untwisted and untapered propeller having a propeller solidity of 0.103 and NACA 63_2-015 airfoil sections.

Tests were conducted for each of these propellers for three blade angles over a range of advance ratios from about 0.5 to 1.3. The Reynolds numbers of the tests, based on hull length, were about 11.9×10^6 and 17.5×10^6 which corresponds to test airspeeds of about 94 ft/sec and 139 ft/sec, respectively. The tests included the determination of the propeller characteristics, complete-model aerodynamic forces and moments, aft section hull boundary-layer and propeller-wake characteristics, and surface-pressure distributions for one longitudinal station of the fuselage.

SYMBOLS

Force and moment coefficients are based on hull volume and are referred to the stability axes the origin of which is the center of buoyancy. This point is located on the model center line 109.30 inches aft of the model nose.

A_e total effective blade area factor, $(B)(F)(D^2)$, sq ft

F activity factor per blade, $\frac{100,000}{16}\int_{0.2}^{1.0}\left(\frac{c}{D}\right)x^3dx$

B number of blades

c	local propeller chord, ft
c_e	propeller equivalent chord, $\frac{\int_0^{1.0} cx^2 dx}{\int_0^{1.0} x^2 dx}$, ft
D	propeller diameter, ft
D_o	drag of basic model (propeller off), lb
h	total length of boundary-layer or wake rake, ft
l	total length of hull, ft
n	propeller rotational speed, rps
P	power, $2\pi nQ$, ft-lb/sec
p_l	local static pressure, lb/sq ft
p_∞	free-stream static pressure, lb/sq ft
Q	propeller torque, ft-lb
q_l	local dynamic pressure, lb/sq ft
q_∞	free-stream dynamic pressure, lb/sq ft
R	propeller radius, ft
r	propeller radius at any station, ft
T_p	propeller thrust, lb
T_e	effective thrust (Propeller thrust - Propeller-induced change in hull drag), lb
t	propeller blade width, ft
U_l	local velocity, ft/sec
U_∞	free-stream velocity, ft/sec

U_∞/nD	propeller advance ratio
V	hull volume, 184 cu ft
x	chordwise distance along fuselage, ft or fraction of propeller radius, (r/R)
y	distance from and normal to hull longitudinal axis, ft
z	distance from propeller axis along wake rake, ft
α	model angle of attack, deg
β	propeller blade angle measured at 0.75R, deg
δ_e	elevator deflection angle (positive deflection, trailing edge down), deg
η	propeller efficiency, $\frac{C_T}{C_p}\frac{U_\infty}{nD} = \frac{T_p U_\infty}{P}$
η_e	propeller propulsive efficiency, $\frac{C_{T_e}}{C_p}\frac{U_\infty}{nD}$
ρ	mass density of air, slugs/cu ft
C_L	lift coefficient, $\frac{\text{Lift}}{q_\infty V^{2/3}}$
C_D	drag coefficient measured on scale system during propeller operating tests (equal to $C_{D,o}$ when propeller removed), $\frac{\text{Drag}}{q_\infty V^{2/3}}$
$C_{D,e}$	effective drag coefficient $(C_{D,o} - C_D)$
$C_{D,o}$	drag coefficient of basic hull, propeller off $(C_{D,o} = 0.0210)$
$C_{D,e}/C_{D,o}$	ratio of effective drag to the drag of the basic hull
C_l	rolling-moment coefficient, $\frac{\text{Rolling moment}}{q_\infty V}$

C_m pitching-moment coefficient, $\frac{\text{Pitching moment}}{q_\infty V}$

C_n yawing-moment coefficient, $\frac{\text{Yawing moment}}{q_\infty V}$

C_P power coefficient, $\frac{P}{\rho n^3 D^5}$

C_p pressure coefficient, $\frac{p_l - p_\infty}{q_\infty}$

C_T thrust coefficient, $\frac{T_p}{\rho n^2 D^4}$

C_{T_e} propeller propulsive thrust coefficient, $\frac{V^{2/3}}{2D^2} C_{D,e}\left(\frac{U_\infty}{nD}\right)^2$

C_Y side-force coefficient, $\frac{\text{Side force}}{q_\infty V^{2/3}}$

MODEL

A 1/20-scale model of an airship equipped for stern propulsion was used in the present investigation. The model had a length of about 20.5 feet and a volume of 184 cubic feet. Principal dimensions of the hull, gondola, and tail surfaces are shown in figure 1. Photographs of the model and some of its components are shown in figure 2.

The tail configuration of the model was an inverted Y arrangement with 120° radial spacing of the surfaces. The longitudinal-control surfaces were equipped with actuators for remote control through ±20° range elevator deflection. The elevators were equipped with a servo tab with linkage to provide equal but opposite deflections to those of the elevator.

The model was equipped to operate with either of the two different propellers shown in the photographs of figures 2(b) and 2(c). The blade-form curves of the two propellers are shown in figures 3(a) and 3(b). Propeller 1 had 4 blades which were twisted and tapered, a diameter of 2 feet, a solidity of 0.129 (based on an equivalent chord c_e of

0.104 foot), an activity factor per blade of 68.5, a total effective blade area A_e of 1,095 square feet, and Clark Y airfoil sections. Propeller 2 had 3 blades which were untwisted and untapered, a diameter of 1.37 feet, a solidity of 0.103, an activity factor per blade of 84.3, a total effective blade area A_e of 475 square feet, and NACA 63_2-015 airfoil sections. Each propeller had provisions for manually varying the blade angle. Both propellers were driven by 20-horsepower electric-induction motors. One motor was used to drive propeller 2, whereas two motors were required and were mounted in tandem to drive propeller 1. In each case, the motors were attached to the model with a strain-gage mount to measure propeller thrust and torque. The tandem-motor arrangement and strain-gage balance are shown in figure 2(d) and the single-motor arrangement is shown mounted in the model in figure 2(e).

Boundary-layer characteristics of the aft section of the hull were obtained by two rakes mounted so that the total and static tubes were parallel to the airship surface. The location of the rakes was 30° up from the horizontal plane; the port rake was 1 foot forward of the plane of propeller 1 and the starboard rake was 2 feet forward of this plane. The rakes were 13.6 inches long with 14 total tubes and 4 static tubes. The rakes are shown mounted on the model in figures 2(b), (c), and (e). The wake-survey rake which was mounted perpendicular to the longitudinal axis and rotated 45° to the starboard of the vertical fin was 2 feet long with the inboard tube on the propeller-shaft axis 1 foot aft of the plane of propeller 1. The wake-survey rake had 21 total tubes and 6 static tubes. Location of the individual tubes in the various rakes is given, in terms of their distances from the hull surface or shaft axis, in percent of rake length in the pressure-distribution tables 1 to 7. Surface-pressure-distribution data were obtained with two longitudinal rows of static-pressure orifices along the hull. The stations were 60° down from the vertical center line of the model and included 20 orifices on the port side and 5 orifices on the aft section of the starboard side. Location of the orifices, for plotting purposes, can be considered to be in a single longitudinal row on one side of the hull because they were symmetrical about the vertical center line. The chordwise locations in percent of fuselage length from the nose of the model are given in tables 2 to 7.

The model was mounted on a single support strut which entered the model through the gondola as shown in figure 2(f). Angle-of-attack changes were accomplished by remotely controlling an actuator mounted inside of the model. The gondola used in this investigation was somewhat larger than the original gondola as shown in figure 1 because of the mounting system of the model. The tunnel six-component scale-balance system was used for all force and moment measurements except those obtained from the motor-mount strain-gage system.

TESTS

Tests were conducted in the Langley full-scale tunnel on a 1/20-scale model of an airship with each of the two propellers and with the propellers removed. At $\alpha = -0.5^\circ$ the propeller characteristics were determined for a large range of rotational speeds for tunnel speeds of about 94 ft/sec and 139 ft/sec to give a range of propeller advance ratio from about 0.5 to 1.3. The configuration with propeller 1 installed was tested with blade angles, measured at the 0.75R station, of 15°, 20°, and 25°. Propeller 2 was initially checked out at the design angles of 15°, 17°, and 20°; but it was found that, at settings of 15° and 17° for the design model speed and maximum allowable rotational speed, the propeller would not produce the desired thrust (T_e = Drag) nor would it absorb the expected power. The blade angles tested in the systematic investigation were, therefore, arbitrarily increased to 20°, 25°, and 30°.

The effect of propeller operation on the airship aerodynamic characteristics and the effect of angle of attack on the propeller characteristics for three arbitrary power conditions (n = 70.33, 76.67, and 83.33) were determined for an angle-of-attack range of -10.5° to 9.5°. Elevator-effectiveness data were obtained from elevator-deflection tests (δ_e range from -20° to 20°) for the same angle-of-attack range only for the case of propeller 1 operating at a blade angle of 20°. All of these angle-of-attack tests were made for a test velocity of 139 ft/sec.

The surface-pressure-distribution orifices and the boundary-layer and wake rakes were connected to kerosene manometers and the results photographically recorded during all of the $\alpha = -0.5^\circ$ tests. The pressure coefficients, velocity- and dynamic-pressure ratios were determined by IBM data-reduction processes.

CORRECTIONS

All of the force and moment data presented have been corrected for airstream misalinement, buoyancy, and support-strut tares.

A drag coefficient of 0.0120 and 0.0100 at the test velocities of 94 ft/sec and 139 ft/sec, respectively, at $\alpha = -0.5^\circ$ has been subtracted from the drag results to correct for support-strut tares. The drag data at angles of attack other than -0.5° have been corrected by similar but slightly different values of drag coefficient. In general, the six-component scale balance is considered to be accurate in the drag component to ±0.3 pound which at the test velocities of 94 ft/sec

and 139 ft/sec would result in possible errors in drag coefficient of about ±0.0009 and ±0.0004, respectively.

RESULTS AND DISCUSSION

Propeller and Model Characteristics at $\alpha = -0.5°$

The variation of the propeller thrust and power coefficients, propeller efficiency, and model drag coefficient with advance ratio are shown in figures 4 and 5 for propellers 1 and 2, respectively. For comparison purposes, the efficiencies of more conventional-propeller installations are shown in figure 6. The stern-propeller coefficients are seen to vary in a normal manner but the maximum propeller efficiencies as shown in figures 4(c) and 5(c) are much greater than those expected for a conventional-mounted propeller (fig. 6). The large values of maximum efficiency (on the order of 140 percent) are apparently erroneous because the propellers are operating in the wake of the airship, a reduced velocity field, and because the standard definition of propeller efficiency η includes free-stream velocity. Because of the low velocity of the wake, the propeller can produce more thrust per horsepower than it could in the free-stream flow. When this greater ratio of thrust to power is multiplied by the higher free-stream velocity to obtain the propeller efficiency $\left(\eta = \frac{T_p U_\infty}{P}\right)$, the resulting value of efficiency may be very large. Because of these two factors, η may be well above 1.00; whereas, the efficiency of the propeller based on the velocity of the flow in which it is actually operating is conventional, that is, well below 1.00.

Additional analysis is required in order to determine whether these large values of propeller efficiency can actually be achieved with these particular propellers when they are producing enough thrust to propel the airship. In order to make this additional analysis, the data will be examined for the following thrust conditions: $T_e = D_o$, $T_e = 0.75D_o$, $T_e = 0.50D_o$, and $T_e = 0.25D_o$. In order to determine the operating conditions for these thrust conditions for propeller 1 and for conventional-mounted and fin-mounted propellers the data have been reduced to the form of $C_{D,e}/C_{D,o}$ and plotted against advance ratio in figure 7. Propeller 2 was not included in this analysis since preliminary analysis had shown that it was much too small to produce the thrust required for propulsion when operating at the conditions for high efficiency. $C_{D,e}$ represents the resultant drag of the configuration and is obtained by subtracting the drag measured with the propeller operating from the drag of the basic hull with the propeller removed. $C_{D,e}$ then represents the total

effective thrust applied to the airship by the propeller. For a value of $\frac{C_{D,e}}{C_{D,o}} = 1.0$, the resultant thrust of the configuration is equal to the drag; so the configuration is considered to be in a steady-state cruise condition. For the aforementioned thrust conditions, the propeller efficiencies were determined and are shown as a function of advance ratio in figure 8. For the steady-state condition $(T_e = D_o)$, the maximum propeller efficiency is seen to be about 122 percent for propeller 1 and about 73 percent for the conventional-mounted and fin-mounted propellers. Only one blade angle was tested for the conventional-propeller installation, but the efficiencies for the various power conditions at $\beta = 20^\circ$ are quite similar for both the fin-mounted and the conventional-mounted propellers; so it is assumed that the fin-mounted propeller will provide an adequate basis of comparison for the wake-propeller configuration.

The data of figure 8 show that for the case of $T_e = D_o$ the efficiency of the stern propeller is well below its maximum value and that the efficiency is higher for the lower values of thrust $(T_e = 0.75D_o$, $T_e = 0.50D_o$, and $T_e = 0.25D_o)$. This fact indicates that the propeller was too small for most efficient propulsion of this airship. Since the attainment of the very high efficiencies of stern propellers is critically dependent upon keeping the propeller largely in the hull wake, it seems that the loading of this propeller should be reduced by increasing the solidity rather than by increasing the propeller diameter.

So far the discussion has dealt only with propeller efficiencies; however, in order to determine whether these very high efficiencies of the stern propeller are indicative of the effectiveness of the propeller in propelling the airship or whether they are obtained at the expense of some other factor, such as an increase in hull drag, the data have also been reduced to the form of propulsive efficiency η_e. The values of propulsive efficiency were determined for thrust conditions of $T_e = D_o$, $T_e = 0.75D_o$, and $T_e = 0.50D_o$ and are presented in figure 9. The maximum propulsive efficiency of the stern-propeller installation at $T_e = D_o$ is about 103 percent as compared to a value of about 59 percent for the fin-mounted configuration. The reduction in values of efficiency from about 122 percent for propeller efficiency to about 103 percent for propulsive efficiency is in part attributed to the increase in pressure drag of the model with the stern propeller operating. This increase in hull drag with the stern propeller operating will be demonstrated later with the pressure-distribution data.

In order to show in another manner the relative merit of conventional-mounted- and fin-mounted-propeller installations with stern-mounted-propeller installations, the horsepower required to fly for various thrust conditions is shown in figure 10. A composite of these data is shown in figure 11. The stern-mounted propeller is seen to require considerably less horsepower to fly in a steady-state cruise condition than does either of the other configurations. From the viewpoint of reduced horsepower required and therefore increased propulsive efficiency, a stern-mounted-propeller installation would provide a configuration having greatly increased range and endurance as compared with a conventional-propeller configuration.

Propeller and Model Characteristics at Angle of Attack

The variation of the thrust and power coefficients with angle of attack for propeller 1 operating at a blade angle of 20° and the effect of elevator deflection on the propeller characteristics are shown in figure 12. Only the zero-elevator-deflection data are faired for purposes of clarity. Thrust and power for a given operating condition are seen to decrease with either plus or minus angle of attack. The decrease in thrust caused by angle of attack is, in general, considerably greater than that caused by elevator deflection. Therefore, it is surmised that the change with angle of attack of the airflow field (or wake) in which the propeller is operating caused the decrease in thrust. The decrease in power is, of course, caused by the decreased thrust. Elevator deflection is seen to have only minor effects on thrust and power.

The variation of the model aerodynamic characteristics with angle of attack with and without propeller operation at $\beta = 20°$ is shown in figure 13. Propeller operation is seen to have negligible effect on all the forces and moments except, of course, the drag which is a direct function of thrust input.

The effect of elevator deflection on the airship aerodynamic characteristics for the same operating conditions noted in figure 13 is given in figure 14. Elevator effectiveness, as indicated by the range of deflection angles required for longitudinal trim, is about the same for all operating conditions.

Chordwise-Pressure-Distribution, Boundary-Layer and Wake Characteristics

The pressure coefficients of the hull surface, the velocity, and the dynamic-pressure ratios in the hull boundary layer and wake are given

for all test conditions in tables 1 to 7. Some of the pressure-coefficient data, particularly the propeller-off data, are missing because the camera which photographed the manometer board malfunctioned during some of the tests.

The pressure coefficients of the aft portion of the hull surface are shown in figure 15 for the model with propeller 1 operating at various values of advance ratio. Pressure drag was not determined from this series of tests because the forward-pressure data are questionable as a result of camera malfunction. Unpublished data have shown, however, that the stern-mounted-propeller operation should not affect the pressure coefficients near the nose of the model; therefore, it is believed that the aft-pressure coefficients would show the general effect of propeller operation on the pressure drag. In general, the increased propeller rotational speed (fig. 15) increases the pressure drag as indicated by the pressure coefficients being, in general, less positive with increased rotational speed. This increase in hull pressure drag with increased propeller rotational speed, which means increased propeller thrust, ties in the previously demonstrated fact that the propulsive efficiency η_e is lower than the propeller efficiency η.

To show the general effect of propeller operation on the hull boundary-layer and wake characteristics over the aft portion of the hull, the boundary-layer and wake rakes and the velocity ratios existing at these rakes are shown with and without propeller 1 operating in figure 16. Propeller operation begins to decrease the boundary-layer thickness over the hull just forward of the port rake with this boundary-layer thickness becoming progressively much less toward and aft of the propeller plane. The boundary-layer or wake thickness is considered to extend outward from the hull or propeller-shaft axis to a point at which the velocity ratio $\left(U_l/U_\infty\right)$ is 0.9.

CONCLUDING REMARKS

The results of tests in the Langley full-scale tunnel to determine the propeller characteristics of a stern-mounted propeller (or wake propeller) on an airship model indicate that a stern-mounted propeller can be designed to operate at higher values of propulsive efficiency than those experienced by a conventional-mounted- or a fin-mounted-propeller installation. Because of the resulting decreased horsepower required for a given operating condition, the stern-propeller-airship configuration should have much greater range and endurance than a configuration

with a conventional-propeller arrangement. In general, propeller operation had only small effects on the model aerodynamic characteristics.

Langley Research Center,
National Aeronautics and Space Administration,
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TABLE 1

CHORDWISE PRESSURE-DISTRIBUTION, BOUNDARY-LAYER, AND WAKE CHARACTERISTICS OF THE MODEL WITH PROPELLER off INSTALLED WITH $\beta = 0^\circ$ $\alpha = -0.5^\circ$

Station	x/l	C_p
Port hull		
St'bd hull		

Station	y/h	U_1/U_∞	q_1/q_∞
Port rake	.0177	.4430	.1953
	.0443	.5045	.2540
	.0797	.5420	.2938
	.1507	.7270	.5280
	.2920	.8750	.7630
	.4340	.9880	.9780
	.5050	1.0090	1.0150
	.5750	1.0000	.9960
	.6460	1.0000	.9960
	.7180	1.0090	1.0150
	.7890	1.0090	1.0150
	.8590	1.0180	1.0380
	.9300	1.0180	1.0380
	1.0000	1.0000	.9960
St'bd rake	.0177	.5940	.3520
	.0443	.6550	.4300
	.0797	.7530	.5670
	.1507	.8570	.7330
	.2920	.8750	.7630
	.4340	.9880	.9780
	.5050	1.0090	1.0150
	.5750	1.0090	1.0150
	.6460	1.0000	.9960
	.7180	1.0000	.9960
	.7890	1.0090	1.0150
	.8590	1.0090	1.0150
	.9300	1.0090	1.0150
	1.0000	1.0120	1.0260

Station	z/h	U_1/U_∞	q_1/q_∞
Wake rake	.0000	.4890	.2390
	.0833	.4500	.2020
	.1667	.5740	.3290
	.2081	.6300	.3960
	.2500	.7090	.5020
	.2919	.7600	.5770
	.3338	.8110	.6570
	.3750	.8600	.7390
	.4170	.8950	.7990
	.4580	.9190	.8430
	.5000	.9240	.8520
	.5420	.9250	.8540
	.5830	.9310	.8660
	.6250	.9610	.9230
	.6670	.9610	.9220
	.7080	.9550	.9100
	.7500	.9560	.9130
	.7900	.9610	.9220
	.8333	.9800	.9600
	.9170	.9870	.9730
	1.0000	.9830	.9660

TABLE 2

CHORDWISE PRESSURE-DISTRIBUTION, BOUNDARY-LAYER, AND WAKE CHARACTERISTICS OF THE MODEL WITH PROPELLER 1 INSTALLED WITH $\beta = 15°$

(a) $n = 69.70$ rps $\frac{U_\infty}{nD} = 1.010$ $\alpha = -.5°$

Station	x/l	C_p
Port hull	.0146	.592
	.0633	.004
	.1120	-.127
	.1610	-.154
	.2100	-.196
	.2583	-.199
	.3075	-.199
	.3560	-.192
	.4050	-.185
	.4530	-.190
	.5020	-.161
	.5510	-.152
	.6000	-.114
	.6485	-.109
	.6970	-.083
	.7460	-.055
	.7950	-.035
	.8430	-.053
	.8920	.020
	.9410	.138
St'bd hull	.7800	-.024
	.8195	-.064
	.8680	-.015
	.9160	.080
	.9650	.223

Station	y/h	U_1/U_∞	q_1/q_∞
Port rake	.0177	.4386	.1902
	.0443	.5537	.3020
	.0797	.6315	.3937
	.1507	.7504	.5570
	.2920	.9358	.8658
	.4340	.9963	.9799
	.5050	1.0319	1.0515
	.5750	1.0267	1.0403
	.6460	1.0267	1.0425
	.7180	1.0252	1.0380
	.7890	1.0252	1.0380
	.8590	1.0536	1.0962
	.9300	1.0547	1.0984
	1.0000	1.0469	1.0828
St'bd rake	.0177	.6135	.3714
	.0443	.7355	.5347
	.0797	.8063	.6421
	.1507	.9252	.8456
	.2920	1.0319	1.0515
	.4340	1.0307	1.0492
	.5050	1.0416	1.0716
	.5750	1.0427	1.0738
	.6460	1.0440	1.0761
	.7180	1.0427	1.0738
	.7890	1.0440	1.0761
	.8590	1.0483	1.0850
	.9300	1.0483	1.0850
	1.0000	1.0483	1.0850

Station	z/h	U_1/U_∞	q_1/q_∞
Wake rake	.0000	.4065	.1648
	.0833	.6119	.3736
	.1667	.6858	.4693
	.2081	.7304	.5323
	.2500	.7807	.6080
	.2919	.8094	.6538
	.3338	.8462	.7144
	.3750	.8916	.7935
	.4170	.9310	.8648
	.4580	.9578	.9153
	.5000	.9597	.9190
	.5420	.9590	.9176
	.5830	.9581	.9158
	.6250	.9879	.9736
	.6670	.9864	.9708
	.7080	.9883	.9746
	.7500	.9869	.9718
	.7900	.9892	.9764
	.8333	1.0140	1.0260
	.9170	1.0108	1.0194
	1.0000	1.0146	1.0274

TABLE 2 Continued

CHORDWISE PRESSURE-DISTRIBUTION, BOUNDARY-LAYER, AND WAKE CHARACTERISTICS OF THE MODEL WITH PROPELLER 1 INSTALLED WITH $\beta = 15°$

(b) $n = 47.36$ rps $\frac{V_\infty}{nD} = .999$ $\alpha = -.5°$

Station	x/l	C_p
Port hull	.0146	.595
	.0633	-.030
	.1120	-.160
	.1610	-.190
	.2100	-.220
	.2583	-.220
	.3075	-.220
	.3560	-.210
	.4050	-.200
	.4530	-.205
	.5020	-.180
	.5510	-.160
	.6000	-.130
	.6485	-.120
	.6970	-.097
	.7460	-.075
	.7950	-.060
	.8430	-.070
	.8920	.000
	.9410	.130
St'bd hull	.7800	-.050
	.8195	-.090
	.8680	-.040
	.9160	.060
	.9650	.205

Station	y/h	U_l/U_∞	q_l/q_∞
Port rake	.0177	.4305	.1850
	.0443	.5325	.2800
	.0797	.6179	.3800
	.1507	.7532	.5650
	.2920	.9230	.8500
	.4340	.9874	.9700
	.5050	1.0329	1.0650
	.5750	1.0240	1.0450
	.6460	1.0209	1.0400
	.7180	1.0179	1.0350
	.7890	1.0240	1.0450
	.8590	1.0627	1.1250
	.9300	1.0593	1.1200
	1.0000	1.0534	1.1100
St'bd rake	.0177	.5984	.3550
	.0443	.7279	.5300
	.0797	.8010	.6400
	.1507	.9291	.8600
	.2920	1.0390	1.0750
	.4340	1.0415	1.0850
	.5050	1.0444	1.0900
	.5750	1.0415	1.0800
	.6460	1.0444	1.0900
	.7180	1.0510	1.1000
	.7890	1.0510	1.1000
	.8590	1.0510	1.1000
	.9300	1.0534	1.1100
	1.0000	1.0534	1.1100

Station	z/h	U_l/U_∞	q_l/q_∞
Wake rake	.0000	.3820	.1456
	.0833	.6129	.3749
	.1667	.6892	.4740
	.2081	.7343	.5380
	.2500	.7734	.5968
	.2919	.8062	.6485
	.3338	.8451	.7125
	.3750	.8916	.7931
	.4170	.9391	.8798
	.4580	.9646	.9284
	.5000	.9577	.9149
	.5420	.9614	.9221
	.5830	.9577	.9149
	.6250	.9758	.9501
	.6670	.9662	.9315
	.7080	.9737	.9459
	.7500	.9726	.9439
	.7900	.9774	.9531
	.8333	1.0055	1.0089
	.9170	.9983	.9945
	1.0000	1.0055	1.0089

TABLE 2 Continued

CHORDWISE PRESSURE-DISTRIBUTION, BOUNDARY-LAYER, AND WAKE CHARACTERISTICS OF THE MODEL WITH PROPELLER 1 INSTALLED WITH $\beta = 15°$

(C) n = 75.00 rps $\frac{U_\infty}{nD}$ = .943 α = -.5°

Station	x/l	C_p
Port hull	.0146	.604
	.0633	.002
	.1120	-.125
	.1610	-.157
	.2100	-.197
	.2583	-.197
	.3075	-.197
	.3560	-.193
	.4050	-.177
	.4530	-.188
	.5020	-.161
	.5510	-.152
	.6000	-.116
	.6485	-.103
	.6970	-.082
	.7460	-.053
	.7950	-.036
	.8430	-.053
	.8920	.011
	.9410	.137
St'bd hull	.7800	-.033
	.8195	-.071
	.8680	-.013
	.9160	.062
	.9650	.220

Station	y/h	U_l/U_∞	q_l/q_∞
Port rake	.0177	.4454	.1978
	.0443	.5568	.3079
	.0797	.6388	.4045
	.1507	.7587	.5708
	.2920	.9411	.8764
	.4340	.9904	.9708
	.5050	1.0319	1.0539
	.5750	1.0264	1.0427
	.6460	1.0237	1.0382
	.7180	1.0237	1.0382
	.7890	1.0223	1.0337
	.8590	1.0466	1.0854
	.9300	1.0452	1.0831
	1.0000	1.0414	1.0742
St'bd rake	.0177	.6122	.3708
	.0443	.7364	.5371
	.0797	.8073	.6449
	.1507	.9293	.8539
	.2920	1.0359	1.0629
	.4340	1.0359	1.0629
	.5050	1.0439	1.0787
	.5750	1.0439	1.0787
	.6460	1.0439	1.0787
	.7180	1.0452	1.0809
	.7890	1.0414	1.0742
	.8590	1.0452	1.0831
	.9300	1.0452	1.0831
	1.0000	1.0466	1.0854

Station	z/h	U_l/U_∞	q_l/q_∞
Wake rake	.0000	.4250	.1802
	.0833	.6494	.4208
	.1667	.7245	.5237
	.2081	.7700	.5916
	.2500	.8130	.6594
	.2919	.8391	.7025
	.3338	.8704	.7558
	.3750	.9068	.8204
	.4170	.9426	.8864
	.4580	.9569	.9135
	.5000	.9581	.9159
	.5420	.9581	.9159
	.5830	.9586	.9169
	.6250	.9920	.9819
	.6670	.9892	.9762
	.7080	.9913	.9805
	.7500	.9920	.9819
	.7900	.9935	.9847
	.8333	1.0168	1.0315
	.9170	1.0180	1.0338
	1.0000	1.0198	1.0376

TABLE 2 Continued

CHORDWISE PRESSURE-DISTRIBUTION, BOUNDARY-LAYER, AND WAKE CHARACTERISTICS OF THE MODEL WITH PROPELLER 1 INSTALLED WITH $\beta = 15°$

(d) $n = 53.40$ rps $\frac{U_\infty}{nD} = .883$ $\alpha = -.5°$

Station	x/l	C_p
Port hull	.0146	.592
	.0633	-.005
	.1120	-.144
	.1610	-.179
	.2100	-.213
	.2583	-.209
	.3075	-.204
	.3560	-.194
	.4050	-.194
	.4530	-.189
	.5020	-.174
	.5510	-.169
	.6000	-.145
	.6485	-.124
	.6970	-.100
	.7460	-.084
	.7950	-.054
	.8430	-.079
	.8920	-.014
	.9410	.129
St'bd hull	.7800	-.054
	.8195	-.089
	.8680	-.044
	.9160	.044
	.9650	.194

Station	y/h	U_1/U_∞	q_1/q_∞
Port rake	.0177	.4319	.1841
	.0443	.5459	.2935
	.0797	.6260	.3881
	.1507	.7605	.5672
	.2920	.9222	.8408
	.4340	.9935	.9751
	.5050	1.0396	1.0647
	.5750	1.0329	1.0547
	.6460	1.0244	1.0348
	.7180	1.0274	1.0398
	.7890	1.0244	1.0348
	.8590	1.0569	1.1045
	.9300	1.0569	1.1045
	1.0000	1.0451	1.0796
St'bd rake	.0177	.6057	.3582
	.0443	.7304	.5274
	.0797	.8109	.6468
	.1507	.9355	.8607
	.2920	1.0451	1.0796
	.4340	1.0451	1.0796
	.5050	1.0569	1.0995
	.5750	1.0569	1.1045
	.6460	1.0569	1.1045
	.7180	1.0569	1.0995
	.7890	1.0569	1.1045
	.8590	1.0515	1.0896
	.9300	1.0545	1.0945
	1.0000	1.0545	1.0945

Station	z/h	U_1/U_∞	q_1/q_∞
Wake rake	.0000	.4270	.1819
	.0833	.6592	.4335
	.1667	.7481	.5582
	.2081	.7973	.6341
	.2500	.8281	.6841
	.2919	.8547	.7287
	.3338	.8804	.7735
	.3750	.9216	.8473
	.4170	.9500	.9003
	.4580	.9737	.9461
	.5000	.9705	.9399
	.5420	.9737	.9461
	.5830	.9658	.9305
	.6250	.9935	.9846
	.6670	.9882	.9742
	.7080	.9903	.9784
	.7500	.9891	.9762
	.7900	.9918	.9815
	.8333	1.0157	1.0292
	.9170	1.0126	1.0230
	1.0000	1.0178	1.0334

TABLE 2 Continued

CHORDWISE PRESSURE-DISTRIBUTION, BOUNDARY-LAYER, AND WAKE CHARACTERISTICS OF THE MODEL WITH PROPELLER 1 INSTALLED WITH β = 15°

(e) n = 81.60 rps $\frac{U_\infty}{nD}$ = .860 α = -.5°

Station	x/l	C_p
Port hull	.0146	.622
	.0633	.016
	.1120	-.109
	.1610	-.157
	.2100	-.192
	.2583	-.190
	.3075	-.189
	.3560	-.187
	.4050	-.178
	.4530	-.180
	.5020	-.155
	.5510	-.144
	.6000	-.112
	.6485	-.100
	.6970	-.079
	.7460	-.054
	.7950	-.034
	.8430	-.048
	.8920	.011
	.9410	.121
St'bd hull	.7800	-.022
	.8195	-.061
	.8680	-.011
	.9160	.066
	.9650	.199

Station	y/h	U_l/U_∞	q_l/q_∞
Port rake	.0177	.4486	.1991
	.0443	.5634	.3158
	.0797	.6412	.4096
	.1507	.7642	.5812
	.2920	.9479	.8947
	.4340	.9935	.9794
	.5050	1.0286	1.0503
	.5750	1.0229	1.0389
	.6460	1.0229	1.0389
	.7180	1.0229	1.0389
	.7890	1.0216	1.0366
	.8590	1.0449	1.0847
	.9300	1.0435	1.0824
	1.0000	1.0395	1.0732
St'bd rake	.0177	.6167	.3776
	.0443	.7359	.5378
	.0797	.8075	.6476
	.1507	.9253	.8513
	.2920	1.0255	1.0458
	.4340	1.0311	1.0572
	.5050	1.0395	1.0732
	.5750	1.0395	1.0732
	.6460	1.0395	1.0732
	.7180	1.0380	1.0709
	.7890	1.0380	1.0709
	.8590	1.0449	1.0847
	.9300	1.0449	1.0847
	1.0000	1.0449	1.0847

Station	z/h	U_l/U_∞	q_l/q_∞
Wake rake	.0000	.4622	.2132
	.0833	.6816	.4634
	.1667	.7762	.6011
	.2081	.8258	.6805
	.2500	.8655	.7473
	.2919	.8854	.7821
	.3338	.9059	.8186
	.3750	.9352	.8727
	.4170	.9544	.9088
	.4580	.9562	.9121
	.5000	.9582	.9159
	.5420	.9575	.9145
	.5830	.9589	.9174
	.6250	.9925	.9829
	.6670	.9925	.9829
	.7080	.9907	.9791
	.7500	.9927	.9834
	.7900	.9896	.9772
	.8333	1.0193	1.0365
	.9170	1.0197	1.0375
	1.0000	1.0207	1.0394

TABLE 2 Continued

CHORDWISE PRESSURE-DISTRIBUTION, BOUNDARY-LAYER, AND WAKE CHARACTERISTICS OF THE MODEL WITH PROPELLER 1 INSTALLED WITH $\beta = 15°$

(f) n = 88.22 rps $\frac{U_\infty}{nD} = .795$ $\alpha = -.5°$

Station	x/l	C_p
Port hull	.0146	.608
	.0633	.004
	.1120	-.126
	.1610	-.159
	.2100	-.195
	.2583	-.196
	.3075	-.195
	.3560	-.191
	.4050	-.184
	.4530	-.188
	.5020	-.161
	.5510	-.154
	.6000	-.115
	.6485	-.108
	.6970	-.083
	.7460	-.057
	.7950	-.039
	.8430	-.055
	.8920	.004
	.9410	.106
St'bd hull	.7800	-.034
	.8195	-.066
	.8680	-.027
	.9160	.050
	.9650	.188

Station	y/h	U_l/U_∞	q_l/q_∞
Port rake	.0177	.4646	.2143
	.0443	.5813	.3364
	.0797	.6567	.4309
	.1507	.7795	.6083
	.2920	.9560	.9124
	.4340	.9982	.9954
	.5050	1.0248	1.0507
	.5750	1.0222	1.0438
	.6460	1.0237	1.0461
	.7180	1.0237	1.0484
	.7890	1.0222	1.0438
	.8590	1.0496	1.1014
	.9300	1.0521	1.1060
	1.0000	1.0481	1.0968
St'bd rake	.0177	.6212	.3848
	.0443	.7477	.5599
	.0797	.8150	.6636
	.1507	.9336	.8710
	.2920	1.0374	1.0760
	.4340	1.0359	1.0737
	.5050	1.0441	1.0899
	.5750	1.0428	1.0876
	.6460	1.0428	1.0876
	.7180	1.0441	1.0899
	.7890	1.0456	1.0922
	.8590	1.0496	1.1014
	.9300	1.0496	1.1014
	1.0000	1.0496	1.1014

Station	z/h	U_l/U_∞	q_l/q_∞
Wake rake	.0000	.4968	.2463
	.0833	.7107	.5040
	.1667	.8335	.6932
	.2081	.8838	.7793
	.2500	.9184	.8415
	.2919	.9399	.8815
	.3338	.9535	.9072
	.3750	.9728	.9443
	.4170	.9610	.9214
	.4580	.9521	.9043
	.5000	.9485	.8976
	.5420	.9483	.8972
	.5830	.9505	.9015
	.6250	.9815	.9614
	.6670	.9843	.9666
	.7080	.9853	.9685
	.7500	.9866	.9714
	.7900	.9880	.9737
	.8333	1.0162	1.0303
	.9170	1.0166	1.0312
	1.0000	1.0166	1.0312

TABLE 2 Continued

CHORDWISE PRESSURE-DISTRIBUTION, BOUNDARY-LAYER, AND WAKE CHARACTERISTICS

OF THE MODEL WITH PROPELLER 1 INSTALLED WITH $\beta = 15°$

(E) n = 60.01 rps $\frac{U_\infty}{nD}$ = .782 α = -.5°

Station	x/l	C_p
Port hull	.0146	.614
	.0633	.000
	.1120	-.126
	.1610	-.172
	.2100	-.208
	.2583	-.213
	.3075	-.218
	.3560	-.203
	.4050	-.182
	.4530	-.192
	.5020	-.157
	.5510	-.162
	.6000	-.145
	.6485	-.132
	.6970	-.108
	.7460	-.086
	.7950	-.091
	.8430	-.066
	.8920	-.010
	.9410	.106
St'bd hull	.7800	-.040
	.8195	-.106
	.8680	-.045
	.9160	.040
	.9650	.177

Station	y/h	U_l/U_∞	q_l/q_∞
Port rake	.0177	.4553	.2030
	.0443	.5656	.3198
	.0797	.6479	.4213
	.1507	.7792	.6041
	.2920	.9634	.9239
	.4340	1.0227	1.0406
	.5050	1.0380	1.0761
	.5750	1.0355	1.0711
	.6460	1.0355	1.0660
	.7180	1.0355	1.0660
	.7890	1.0355	1.0711
	.8590	1.0597	1.1168
	.9300	1.0597	1.1168
	1.0000	1.0567	1.1117
St'bd rake	.0177	.6290	.3909
	.0443	.7383	.5431
	.0797	.8077	.6497
	.1507	.9401	.8832
	.2920	1.0355	1.0660
	.4340	1.0380	1.0761
	.5050	1.0532	1.1066
	.5750	1.0501	1.0964
	.6460	1.0567	1.1117
	.7180	1.0501	1.1015
	.7890	1.0532	1.1066
	.8590	1.0501	1.1015
	.9300	1.0501	1.0964
	1.0000	1.0532	1.1066

Station	z/h	U_l/U_∞	q_l/q_∞
Wake rake	.0000	.4778	.2278
	.0833	.6995	.4882
	.1667	.8206	.6719
	.2081	.8686	.7527
	.2500	.8960	.8010
	.2919	.9175	.8399
	.3338	.9307	.8640
	.3750	.9600	.9197
	.4170	.9580	.9155
	.4580	.9694	.9375
	.5000	.9612	.9217
	.5420	.9672	.9333
	.5830	.9672	.9333
	.6250	.9961	.9900
	.6670	.9887	.9752
	.7080	.9931	.9836
	.7500	.9914	.9805
	.7900	.9961	.9900
	.8333	1.0135	1.0246
	.9170	1.0160	1.0299
	1.0000	1.0144	1.0267

TABLE 2 Continued

CHORDWISE PRESSURE-DISTRIBUTION, BOUNDARY-LAYER, AND WAKE CHARACTERISTICS OF THE MODEL WITH PROPELLER 1 INSTALLED WITH $\beta = 15$

(h) n = 95.20 rps $\frac{U_\infty}{nD} = .737$ $\alpha = -.5$

Station	x/l	C_p
Port hull	.0146	.628
	.0633	.025
	.1120	-.103
	.1610	-.150
	.2100	-.177
	.2583	-.183
	.3075	-.189
	.3560	-.177
	.4050	-.177
	.4530	-.182
	.5020	-.154
	.5510	-.145
	.6000	-.113
	.6485	-.101
	.6970	-.076
	.7460	-.048
	.7950	-.032
	.8430	-.050
	.8920	.011
	.9410	.108
St'bd hull	.7800	-.020
	.8195	-.067
	.8680	-.020
	.9160	.057
	.9650	.173

Station	y/h	U_l/U_∞	q_l/q_∞
Port rake	.0177	.4645	.2148
	.0443	.5861	.3441
	.0797	.6612	.4388
	.1507	.7793	.6074
	.2920	.9590	.9215
	.4340	.9994	1.0000
	.5050	1.0301	1.0647
	.5750	1.0274	1.0577
	.6460	1.0246	1.0531
	.7180	1.0235	1.0508
	.7890	1.0235	1.0508
	.8590	1.0439	1.0924
	.9300	1.0439	1.0924
	1.0000	1.0399	1.0831
St'bd rake	.0177	.6211	.3857
	.0443	.7378	.5473
	.0797	.8063	.6513
	.1507	.9198	.8476
	.2920	1.0246	1.0531
	.4340	1.0290	1.0600
	.5050	1.0357	1.0762
	.5750	1.0384	1.0808
	.6460	1.0357	1.0762
	.7180	1.0357	1.0762
	.7890	1.0357	1.0762
	.8590	1.0384	1.0808
	.9300	1.0371	1.0785
	1.0000	1.0399	1.0831

Station	z/h	U_l/U_∞	q_l/q_∞
Wake rake	.0000	.5261	.2762
	.0833	.7314	.5337
	.1667	.8812	.7746
	.2081	.9306	.8640
	.2500	.9588	.9172
	.2919	.9809	.9600
	.3338	.9930	.9837
	.3750	1.0068	1.0114
	.4170	.9437	.8887
	.4580	.9427	.8868
	.5000	.9420	.8854
	.5420	.9432	.8877
	.5830	.9430	.8873
	.6250	.9809	.9600
	.6670	.9834	.9647
	.7080	.9831	.9643
	.7500	.9826	.9633
	.7900	.9867	.9714
	.8333	1.0117	1.0213
	.9170	1.0125	1.0228
	1.0000	1.0129	1.0237

TABLE 2 Continued

CHORDWISE PRESSURE-DISTRIBUTION, BOUNDARY-LAYER, AND WAKE CHARACTERISTICS

OF THE MODEL WITH PROPELLER 1 INSTALLED WITH $\beta = 15°$

(1) n = 66.63 rps $\frac{U_\infty}{nD}$ = .702 α = -.5°

Station	x/l	C_p
Port hull	.0146	.637
	.0633	.005
	.1120	-.132
	.1610	-.183
	.2100	-.234
	.2583	-.234
	.3075	-.234
	.3560	-.209
	.4050	-.193
	.4530	-.214
	.5020	-.183
	.5510	-.173
	.6000	-.137
	.6485	-.132
	.6970	-.101
	.7460	-.071
	.7950	-.056
	.8430	-.091
	.8920	-.030
	.9410	.066
St'bd hull	.7800	-.051
	.8195	-.107
	.8680	-.030
	.9160	.015
	.9650	.122

Station	y/h	U_l/U_∞	q_l/q_∞
Port rake	.0177	.4568	.2041
	.0443	.5939	.3520
	.0797	.6558	.4286
	.1507	.7906	.6224
	.2920	.9568	.9133
	.4340	1.0111	1.0153
	.5050	1.0329	1.0612
	.5750	1.0298	1.0561
	.6460	1.0206	1.0357
	.7180	1.0173	1.0306
	.7890	1.0206	1.0357
	.8590	1.0657	1.1276
	.9300	1.0657	1.1327
	1.0000	1.0657	1.1276
St'bd rake	.0177	.5895	.3469
	.0443	.7242	.5204
	.0797	.7906	.6224
	.1507	.9056	.8163
	.2920	1.0390	1.0765
	.4340	1.0329	1.0612
	.5050	1.0538	1.1071
	.5750	1.0512	1.0969
	.6460	1.0512	1.0969
	.7180	1.0512	1.0969
	.7890	1.0538	1.1020
	.8590	1.0538	1.1020
	.9300	1.0568	1.1122
	1.0000	1.0538	1.1071

Station	z/h	U_l/U_∞	q_l/q_∞
Wake rake	.0000	.5328	.2833
	.0833	.7458	.5549
	.1667	.8956	.8001
	.2081	.9445	.8900
	.2500	.9705	.9397
	.2919	.9835	.9650
	.3338	.9943	.9862
	.3750	1.0154	1.0285
	.4170	.9540	.9079
	.4580	.9644	.9280
	.5000	.9573	.9143
	.5420	.9655	.9302
	.5830	.9562	.9122
	.6250	.9974	.9925
	.6670	.9921	.9820
	.7080	.9953	.9884
	.7500	.9921	.9820
	.7900	.9947	.9873
	.8333	1.0221	1.0422
	.9170	1.0221	1.0422
	1.0000	1.0252	1.0486

TABLE 2 Continued

CHORDWISE PRESSURE-DISTRIBUTION, BOUNDARY-LAYER, AND WAKE CHARACTERISTICS OF THE MODEL WITH PROPELLER 1 INSTALLED WITH $\beta = 15°$

(j) $n = 101.90$ rps $\frac{U_\infty}{nD} = .685$ $\alpha = -.5°$

Station	x/l	C_p
Port hull	.0146	.605
	.0623	-.002
	.1120	-.131
	.1610	-.159
	.2100	-.204
	.2583	-.208
	.3075	-.211
	.3560	-.194
	.4050	-.192
	.4530	-.197
	.5020	-.166
	.5510	-.154
	.6000	-.122
	.6485	-.112
	.6970	-.900
	.7460	-.065
	.7950	-.051
	.8430	-.065
	.8920	-.014
	.9410	.084
St'bd hull	.7800	-.039
	.8195	-.077
	.8680	-.037
	.9160	.035
	.9650	.140

Station	y/h	U_l/U_∞	q_l/q_∞
Port rake	.0177	.4672	.2207
	.0443	.5870	.3474
	.0797	.6604	.4390
	.1507	.7783	.6103
	.2920	.9495	.9085
	.4340	1.0069	1.0211
	.5050	1.0350	1.0775
	.5750	1.0264	1.0610
	.6460	1.0264	1.0610
	.7180	1.0249	1.0587
	.7890	1.0264	1.0610
	.8590	1.0525	1.1150
	.9300	1.0486	1.1080
	1.0000	1.0459	1.1009
St'bd rake	.0177	.6205	.3873
	.0443	.7405	.5516
	.0797	.8092	.6596
	.1507	.9251	.8615
	.2920	1.0361	1.0798
	.4340	1.0350	1.0775
	.5050	1.0417	1.0915
	.5750	1.0431	1.0962
	.6460	1.0431	1.0962
	.7180	1.0444	1.0986
	.7890	1.0431	1.0962
	.8590	1.0470	1.1033
	.9300	1.0470	1.1033
	1.0000	1.0444	1.0986

Station	z/h	U_l/U_∞	q_l/q_∞
Wake rake	.0000	.5648	.3183
	.0833	.7705	.5923
	.1667	.9487	.8981
	.2081	.9988	.9952
	.2500	1.0171	1.0322
	.2919	1.0386	1.0764
	.3338	1.0478	1.0952
	.3750	1.0557	1.1120
	.4170	.9414	.8842
	.4580	.9464	.8938
	.5000	.9459	.8928
	.5420	.9452	.8914
	.5830	.9487	.8981
	.6250	.9888	.9755
	.6670	.9895	.9770
	.7080	.9873	.9726
	.7500	.9881	.9741
	.7900	.9883	.9745
	.8333	1.0153	1.0283
	.9170	1.0171	1.0322
	1.0000	1.0162	1.0303

TABLE 2 Continued

CHORDWISE PRESSURE-DISTRIBUTION, BOUNDARY-LAYER, AND WAKE CHARACTERISTICS OF THE MODEL WITH PROPELLER 1 INSTALLED WITH $\beta = 15°$

(k) n = 73.33 rps $\frac{U_\infty}{nD}$ = .641 α = -.5°

Station	x/l	C_p
Port hull	.0146	.581
	.0633	-.020
	.1120	-.137
	.1610	-.183
	.2100	-.219
	.2583	-.223
	.3075	-.224
	.3560	-.209
	.4050	-.199
	.4530	-.199
	.5020	-.168
	.5510	-.168
	.6000	-.137
	.6485	-.127
	.6970	-.122
	.7460	-.081
	.7950	-.061
	.8430	-.086
	.8920	-.025
	.9410	.076
St'bd hull	.7800	-.071
	.8195	-.096
	.8680	-.051
	.9160	.010
	.9650	.112

Station	y/h	U_l/U_∞	q_l/q_∞
Port rake	.0177	.4806	.2296
	.0443	.5815	.3418
	.0797	.6617	.4388
	.1507	.7983	.6378
	.2920	.9558	.9184
	.4340	1.0103	1.0255
	.5050	1.0404	1.0867
	.5750	1.0344	1.0765
	.6460	1.0404	1.0867
	.7180	1.0282	1.0612
	.7890	1.0344	1.0765
	.8590	1.0555	1.1173
	.9300	1.0555	1.1173
	1.0000	1.0520	1.1122
St'bd rake	.0177	.6122	.3776
	.0443	.7544	.5714
	.0797	.8140	.6684
	.1507	.9459	.8980
	.2920	1.0465	1.0969
	.4340	1.0490	1.1020
	.5050	1.0490	1.1071
	.5750	1.0609	1.1327
	.6460	1.0555	1.1173
	.7180	1.0490	1.1071
	.7890	1.0555	1.1173
	.8590	1.0555	1.1173
	.9300	1.0555	1.1173
	1.0000	1.0609	1.1276

Station	z/h	U_l/U_∞	q_l/q_∞
Wake rake	.0000	.5930	.3510
	.0833	.7904	.6234
	.1667	.9775	.9534
	.2081	1.0308	1.0604
	.2500	1.0505	1.1012
	.2919	1.0698	1.1421
	.3338	1.0738	1.1505
	.3750	1.0766	1.1567
	.4170	.9476	.8958
	.4580	.9590	.9178
	.5000	.9443	.8896
	.5420	.9558	.9116
	.5830	.9519	.9042
	.6250	.9903	.9786
	.6670	.9812	.9608
	.7080	.9887	.9755
	.7500	.9844	.9671
	.7900	.9882	.9744
	.8333	1.0150	1.0278
	.9170	1.0170	1.0320
	1.0000	1.0195	1.0373

TABLE 2 Continued

CHORDWISE PRESSURE-DISTRIBUTION, BOUNDARY-LAYER, AND WAKE CHARACTERISTICS OF THE MODEL WITH PROPELLER 1 INSTALLED WITH $\beta = 15°$

(1) $n = 80.02$ rps $\frac{U_\infty}{nD} = .583$ $\alpha = -.5°$

Station	x/l	C_p
Port hull	.0146	.609
	.0533	.000
	.1120	-.142
	.1510	-.152
	.2100	-.198
	.2583	-.195
	.3075	-.192
	.3560	-.192
	.4050	-.187
	.4530	-.192
	.5020	-.162
	.5510	-.137
	.6000	-.121
	.6485	-.121
	.6970	-.094
	.7460	-.071
	.7950	-.060
	.8430	-.071
	.8920	-.030
	.9410	.040
St'bd hull	.7800	-.060
	.8195	-.101
	.8580	-.071
	.9160	.005
	.9550	.081

Station	y/h	U_1/U_∞	q_1/q_∞
Port rake	.0177	.4840	.2335
	.0443	.6069	.3604
	.0797	.6750	.4518
	.1507	.8164	.6548
	.2920	.9854	.9543
	.4340	1.0288	1.0457
	.5050	1.0564	1.1015
	.5750	1.0594	1.1066
	.6460	1.0564	1.1015
	.7180	1.0441	1.0761
	.7890	1.0415	1.0660
	.8590	1.0659	1.1168
	.9300	1.0594	1.1066
	1.0000	1.0594	1.1066
St'bd rake	.0177	.6166	.3756
	.0443	.7596	.5685
	.0797	.8197	.6650
	.1507	.9558	.8985
	.2920	1.0538	1.0914
	.4340	1.0594	1.1066
	.5050	1.0683	1.1269
	.5750	1.0683	1.1269
	.6460	1.0629	1.1117
	.7180	1.0659	1.1168
	.7890	1.0659	1.1168
	.8590	1.0594	1.1066
	.9300	1.0594	1.1066
	1.0000	1.0629	1.1117

Station	z/h	U_1/U_∞	q_1/q_∞
Wake rake	.0000	.6550	.4281
	.0833	.8725	.7595
	.1667	1.0822	1.1685
	.2081	1.1321	1.2789
	.2500	1.1453	1.3087
	.2919	1.1582	1.3385
	.3338	1.1508	1.3214
	.3750	1.1429	1.3034
	.4170	.9503	.9007
	.4580	.9651	.9294
	.5000	.9575	.9146
	.5420	.9597	.9188
	.5830	.9603	.9199
	.6250	.9968	.9910
	.6670	.9903	.9784
	.7080	.9924	.9826
	.7500	.9860	.9699
	.7900	.9913	.9805
	.8333	1.0194	1.0367
	.9170	1.0194	1.0367
	1.0000	1.0220	1.0421

TABLE 2 Continued

CHORDWISE PRESSURE-DISTRIBUTION, BOUNDARY-LAYER, AND WAKE CHARACTERISTICS OF THE MODEL WITH PROPELLER 1 INSTALLED WITH β = 15°

(m) n = 86.65 rps $\frac{U_\infty}{nD}$ = .543 α = -.5°

Station	x/l	C_p
Port hull	.0146	.596
	.0633	-.020
	.1120	-.158
	.1610	-.168
	.2100	-.215
	.2583	-.213
	.3075	-.209
	.3560	-.193
	.4050	-.188
	.4530	-.180
	.5020	-.173
	.5510	-.163
	.6000	-.132
	.6485	-.132
	.6970	-.120
	.7460	-.086
	.7950	-.076
	.8430	-.096
	.8920	-.051
	.9410	.020
St'bd hull	.7800	-.066
	.8195	-.122
	.8680	-.066
	.9160	-.025
	.9650	.035

Station	y/h	U_l/U_∞	q_l/q_∞
Port rake	.0177	.5056	.2551
	.0443	.6278	.3929
	.0797	.6981	.4898
	.1507	.8324	.6939
	.2920	.9739	.9541
	.4340	1.0182	1.0408
	.5050	1.0481	1.1020
	.5750	1.0510	1.1122
	.6460	1.0426	1.0918
	.7180	1.0359	1.0816
	.7890	1.0333	1.0765
	.8590	1.0575	1.1224
	.9300	1.0575	1.1224
	1.0000	1.0600	1.1276
St'bd rake	.0177	.6073	.3724
	.0443	.7418	.5510
	.0797	.8254	.6837
	.1507	.9550	.9184
	.2920	1.0575	1.1224
	.4340	1.0600	1.1276
	.5050	1.0600	1.1276
	.5750	1.0600	1.1327
	.6460	1.0600	1.1276
	.7180	1.0600	1.1327
	.7890	1.0629	1.1378
	.8590	1.0510	1.1122
	.9300	1.0545	1.1173
	1.0000	1.0545	1.1173

Station	z/h	U_l/U_∞	q_l/q_∞
Wake rake	.0000	.7026	.4926
	.0833	.9213	.8470
	.1667	1.1559	1.3333
	.2081	1.2062	1.4515
	.2500	1.2178	1.4797
	.2919	1.2246	1.4964
	.3338	1.2096	1.4599
	.3750	1.1816	1.3929
	.4170	.9293	.8617
	.4580	.9461	.8930
	.5000	.9421	.8857
	.5420	.9388	.8795
	.5830	.9382	.8784
	.6250	.9808	.9600
	.6670	.9750	.9485
	.7080	.9787	.9558
	.7500	.9728	.9443
	.7900	.9799	.9579
	.8333	1.0046	1.0071
	.9170	1.0094	1.0164
	1.0000	1.0072	1.0122

TABLE 2 Concluded

CHORDWISE PRESSURE-DISTRIBUTION, BOUNDARY-LAYER, AND WAKE CHARACTERISTICS OF THE MODEL WITH PROPELLER 1 INSTALLED WITH $\beta = 15°$

(n) $n = 93.41$ rps $\frac{V_\infty}{nD} = .502$ $\alpha = -.5°$

Station	x/l	C_p
Port hull	.0146	.593
	.0633	-.020
	.1120	-.157
	.1610	-.167
	.2100	-.213
	.2583	-.218
	.3075	-.223
	.3560	-.208
	.4050	-.187
	.4530	-.177
	.5020	-.167
	.5510	-.162
	.6000	-.137
	.6485	-.137
	.6970	-.116
	.7460	-.066
	.7950	-.045
	.8430	-.081
	.8920	-.035
	.9410	.005
St'bd hull	.7800	-.045
	.8195	-.106
	.8680	-.066
	.9160	-.015
	.9650	.015

Station	y/h	U_1/U_∞	q_1/q_∞
Port rake	.0177	.5315	.2792
	.0443	.6388	.4061
	.0797	.7173	.5127
	.1507	.8461	.7107
	.2920	.9928	.9797
	.4340	1.0334	1.0609
	.5050	1.0607	1.1168
	.5750	1.0577	1.1117
	.6460	1.0486	1.0914
	.7180	1.0390	1.0761
	.7890	1.0512	1.0964
	.8590	1.0577	1.1117
	.9300	1.0577	1.1117
	1.0000	1.0607	1.1168
St'bd rake	.0177	.6135	.3756
	.0443	.7517	.5635
	.0797	.8240	.6751
	.1507	.9544	.9086
	.2920	1.0577	1.1117
	.4340	1.0512	1.1015
	.5050	1.0631	1.1269
	.5750	1.0607	1.1168
	.6460	1.0607	1.1168
	.7180	1.0631	1.1218
	.7890	1.0631	1.1218
	.8590	1.0661	1.1320
	.9300	1.0691	1.1371
	1.0000	1.0631	1.1218

Station	z/h	U_1/U_∞	q_1/q_∞
Wake rake	.0000	.7684	.5890
	.0833	1.0065	1.0108
	.1667	1.2546	1.5705
	.2081	1.3093	1.7103
	.2500	1.3138	1.7219
	.2919	1.3113	1.7156
	.3338	1.2890	1.6578
	.3750	1.2313	1.5125
	.4170	.9287	.8604
	.4580	.9389	.8794
	.5000	.9281	.8594
	.5420	.9338	.8699
	.5830	.9287	.8604
	.6250	.9730	.9446
	.6670	.9605	.9204
	.7080	.9751	.9488
	.7500	.9730	.9446
	.7900	.9757	.9499
	.8333	1.0034	1.0045
	.9170	1.0081	1.0139
	1.0000	1.0050	1.0077

TABLE 3

CHORDWISE PRESSURE-DISTRIBUTION, BOUNDARY-LAYER, AND WAKE CHARACTERISTICS OF THE MODEL WITH PROPELLER 1 INSTALLED WITH $\beta = 20°$

(a) n = 52.15 rps $\frac{U_\infty}{nD} = 1.351$ $\alpha = -.5°$

Station	x/l	C_p
Port hull	.0146	.592
	.0633	.008
	.1120	-.115
	.1610	-.150
	.2100	-.192
	.2583	-.193
	.3075	-.194
	.3560	-.177
	.4050	-.168
	.4530	-.158
	.5020	-.148
	.5510	-.139
	.6000	-.104
	.6485	-.097
	.6970	-.072
	.7460	-.048
	.7950	-.028
	.8430	-.042
	.8920	.022
	.9410	.152
St'bd hull	.7800	-.019
	.8195	-.057
	.8680	-.006
	.9160	.081
	.9650	.234

Station	y/h	U_1/U_∞	q_1/q_∞
Port rake	.0177	.4213	.1748
	.0443	.5367	.2832
	.0797	.6157	.3717
	.1507	.7382	.5354
	.2920	.9263	.8429
	.4340	.9828	.9491
	.5050	1.0188	1.0199
	.5750	1.0146	1.0133
	.6460	1.0188	1.0199
	.7180	1.0188	1.0199
	.7890	1.0173	1.0177
	.8590	1.0469	1.0774
	.9300	1.0444	1.0730
	1.0000	1.0444	1.0708
St'bd rake	.0177	.6112	.3673
	.0443	.7328	.5288
	.0797	.8033	.6350
	.1507	.9217	.8341
	.2920	1.0255	1.0332
	.4340	1.0255	1.0332
	.5050	1.0378	1.0575
	.5750	1.0363	1.0553
	.6460	1.0335	1.0509
	.7180	1.0363	1.0553
	.7890	1.0335	1.0509
	.8590	1.0431	1.0686
	.9300	1.0431	1.0686
	1.0000	1.0444	1.0708

Station	z/h	U_1/U_∞	q_1/q_∞
Wake rake	.0000	.4072	.1654
	.0833	.4891	.2388
	.1667	.5992	.3583
	.2081	.6609	.4357
	.2500	.7262	.5261
	.2919	.7708	.5929
	.3338	.8160	.6642
	.3750	.8667	.7496
	.4170	.9140	.8334
	.4580	.9548	.9096
	.5000	.9627	.9248
	.5420	.9627	.9248
	.5830	.9633	.9257
	.6250	.9967	.9910
	.6670	.9969	.9916
	.7080	.9952	.9884
	.7500	.9978	.9934
	.7900	.9941	.9860
	.8333	1.0213	1.0407
	.9170	1.0201	1.0383
	1.0000	1.0219	1.0421

TABLE 3 Continued

CHORDWISE PRESSURE-DISTRIBUTION, BOUNDARY-LAYER, AND WAKE CHARACTERISTICS OF THE MODEL WITH PROPELLER 1 INSTALLED WITH $\beta = 20°$

(b) n = 35.99 rps $\frac{U_\infty}{nD} = 1.314$ $\alpha = -.5°$

Station	x/l	C_p
Port hull	.0146	.585
	.0633	-.010
	.1120	-.125
	.1610	-.170
	.2100	-.200
	.2583	-.207
	.3075	-.215
	.3560	-.200
	.4050	-.200
	.4530	-.185
	.5020	-.170
	.5510	-.150
	.6000	-.135
	.6485	-.120
	.6970	-.095
	.7460	-.070
	.7950	-.030
	.8430	-.045
	.8920	.020
	.9410	.155
St'bd hull	.7800	-.040
	.8195	-.085
	.8680	-.030
	.9160	.070
	.9650	.220

Station	y/h	U_l/U_∞	q_l/q_∞
Port rake	.0177	.4136	.1750
	.0443	.5060	.2600
	.0797	.5840	.3450
	.1507	.7409	.5500
	.2920	.9309	.8750
	.4340	.9910	.9900
	.5050	1.0276	1.0650
	.5750	1.0305	1.0700
	.6460	1.0276	1.0600
	.7180	1.0216	1.0500
	.7890	1.0216	1.0500
	.8590	1.0479	1.1050
	.9300	1.0454	1.1000
	1.0000	1.0454	1.1000
St'bd rake	.0177	.6047	.3700
	.0443	.7409	.5500
	.0797	.7969	.6400
	.1507	.9309	.8750
	.2920	1.0336	1.0750
	.4340	1.0390	1.0900
	.5050	1.0508	1.1100
	.5750	1.0454	1.1000
	.6460	1.0390	1.0900
	.7180	1.0508	1.1150
	.7890	1.0508	1.1100
	.8590	1.0390	1.0900
	.9300	1.0454	1.1000
	1.0000	1.0424	1.0950

Station	z/h	U_l/U_∞	q_l/q_∞
Wake rake	.0000	.3733	.1390
	.0833	.5288	.2790
	.1667	.6263	.3914
	.2081	.6796	.4609
	.2500	.7340	.5375
	.2919	.7793	.6060
	.3338	.8216	.6734
	.3750	.8746	.7634
	.4170	.9220	.8482
	.4580	.9600	.9197
	.5000	.9585	.9167
	.5420	.9633	.9258
	.5830	.9622	.9237
	.6250	.9843	.9666
	.6670	.9781	.9544
	.7080	.9816	.9616
	.7500	.9828	.9636
	.7900	.9843	.9666
	.8333	1.0044	1.0065
	.9170	1.0029	1.0035
	1.0000	1.0034	1.0045

TABLE 3 Continued

CHORDWISE PRESSURE-DISTRIBUTION, BOUNDARY-LAYER, AND WAKE CHARACTERISTICS OF THE MODEL WITH PROPELLER 1 INSTALLED WITH $\beta = 20°$

(c) n = 58.37 rps $\frac{U_\infty}{nD} = 1.202$ $\alpha = -.5°$

Station	x/l	C_p
Port hull	.0146	.607
	.0633	.018
	.1120	-.108
	.1610	-.144
	.2100	-.185
	.2583	-.182
	.3075	-.180
	.3560	-.176
	.4050	-.171
	.4530	-.171
	.5020	-.151
	.5510	-.140
	.6000	-.103
	.6485	-.090
	.6970	-.066
	.7460	-.040
	.7950	-.018
	.8430	-.038
	.8920	.024
	.9410	.144
St'bd hull	.7800	-.013
	.8195	-.051
	.3680	-.011
	.9160	.081
	.9650	.223

Station	y/h	U_l/U_∞	q_l/q_∞
Port rake	.0177	.4366	.1896
	.0443	.5546	.3047
	.0797	.6346	.3995
	.1507	.7515	.5598
	.2920	.9340	.8668
	.4340	.9939	.9797
	.5050	1.0242	1.0406
	.5750	1.0186	1.0293
	.6460	1.0227	1.0384
	.7180	1.0161	1.0248
	.7890	1.0200	1.0316
	.8590	1.0470	1.0880
	.9300	1.0457	1.0858
	1.0000	1.0443	1.0813
St'bd rake	.0177	.6102	.3702
	.0443	.7326	.5327
	.0797	.8037	.6411
	.1507	.9190	.8375
	.2920	1.0242	1.0406
	.4340	1.0255	1.0429
	.5050	1.0324	1.0587
	.5750	1.0335	1.0609
	.6460	1.0403	1.0745
	.7180	1.0351	1.0632
	.7890	1.0364	1.0655
	.8590	1.0389	1.0722
	.9300	1.0403	1.0745
	1.0000	1.0403	1.0745

Station	z/h	U_l/U_∞	q_l/q_∞
Wake rake	.0000	.4290	.1836
	.0833	.5516	.3036
	.1667	.6536	.4262
	.2081	.7140	.5087
	.2500	.7701	.5916
	.2919	.8110	.6563
	.3338	.8503	.7213
	.3750	.8923	.7944
	.4170	.9320	.8666
	.4580	.9581	.9158
	.5000	.9649	.9289
	.5420	.9647	.9284
	.5830	.9661	.9312
	.6250	.9979	.9935
	.6670	.9991	.9959
	.7080	.9972	.9921
	.7500	.9989	.9953
	.7900	.9979	.9935
	.8333	1.0221	1.0422
	.9170	1.0221	1.0422
	1.0000	1.0221	1.0422

TABLE 3 Continued

CHORDWISE PRESSURE-DISTRIBUTION, BOUNDARY-LAYER, AND WAKE CHARACTERISTICS OF THE MODEL WITH PROPELLER 1 INSTALLED WITH $\beta = 20°$

(d) $n = 41.61$ rps $\frac{U_\infty}{nD} = 1.137$ $\alpha = -.5°$

Station	x/l	C_p
Port hull	.0146	.606
	.0633	-.009
	.1120	-.140
	.1610	-.150
	.2100	-.213
	.2583	-.204
	.3075	-.194
	.3560	-.184
	.4050	-.169
	.4530	-.165
	.5020	-.160
	.5510	-.135
	.6000	-.116
	.6485	-.097
	.6970	-.078
	.7460	-.063
	.7950	-.038
	.8430	-.048
	.8920	.029
	.9410	.135
St'bd hull	.7800	-.019
	.8195	-.068
	.8680	-.014
	.9160	.087
	.9650	.213

Station	y/h	U_1/U_∞	q_1/q_∞
Port rake	.0177	.4048	.1602
	.0443	.5298	.2718
	.0797	.6098	.3641
	.1507	.7539	.5[illegible]4
	.2920	.9242	.8350
	.4340	.9910	.9612
	.5050	1.0424	1.0631
	.5750	1.0305	1.0388
	.6460	1.0336	1.0437
	.7180	1.0336	1.0437
	.7890	1.0305	1.0388
	.8590	1.0508	1.0825
	.9300	1.0508	1.0825
	1.0000	1.0479	1.0728
St'bd rake	.0177	.6205	.3738
	.0443	.7450	.5437
	.0797	.8160	.6505
	.1507	.9407	.8641
	.2920	1.0537	1.0874
	.4340	1.0454	1.0680
	.5050	1.0454	1.0680
	.5750	1.0479	1.0728
	.6460	1.0454	1.0680
	.7180	1.0390	1.0583
	.7890	1.0508	1.0777
	.8590	1.0537	1.0874
	.9300	1.0537	1.0874
	1.0000	1.0508	1.0777

Station	z/h	U_1/U_∞	q_1/q_∞
Wake rake	.0000	.3787	.1431
	.0833	.5707	.3250
	.1667	.6790	.4599
	.2081	.7409	.5477
	.2500	.7767	.6019
	.2919	.8339	.6938
	.3338	.8582	.7348
	.3750	.9120	.8298
	.4170	.9461	.8931
	.4580	.9643	.9278
	.5000	.9585	.9167
	.5420	.9660	.9310
	.5830	.9675	.9340
	.6250	.9900	.9779
	.6670	.9854	.9687
	.7080	.9843	.9666
	.7500	.9859	.9698
	.7900	.9828	.9636
	.8333	1.0090	1.0158
	.9170	1.0100	1.0178
	1.0000	1.0070	1.0117

TABLE 3 Continued

CHORDWISE PRESSURE-DISTRIBUTION, BOUNDARY-LAYER, AND WAKE CHARACTERISTICS OF THE MODEL WITH PROPELLER 1 INSTALLED WITH $\beta = 20°$

(e) n = 64.99 rps $\frac{U_\infty}{nD} = 1.082$ $\alpha = -.5°$

Station	x/l	C_p
Port hull	.0146	.616
	.0633	.013
	.1120	-.103
	.1610	-.142
	.2100	-.182
	.2583	-.183
	.3075	-.182
	.3560	-.182
	.4050	-.164
	.4530	-.171
	.5020	-.146
	.5510	-.135
	.6000	-.103
	.6485	-.097
	.6970	-.090
	.7460	-.047
	.7950	-.018
	.8430	-.033
	.8920	.024
	.9410	.128
St'bd hull	.7800	-.011
	.8195	-.040
	.8680	-.011
	.9160	.070
	.9650	.205

Station	y/h	U_l/U_∞	q_l/q_∞
Port rake	.0177	.4356	.1896
	.0443	.5633	.3160
	.0797	.6266	.3928
	.1507	.7480	.5576
	.2920	.9292	.8600
	.4340	.9872	.9729
	.5050	1.0178	1.0339
	.5750	1.0151	1.0271
	.6460	1.0178	1.0316
	.7180	1.0205	1.0384
	.7890	1.0164	1.0293
	.8590	1.0420	1.0835
	.9300	1.0420	1.0835
	1.0000	1.0396	1.0767
St'bd rake	.0177	.6130	.3747
	.0443	.7331	.5350
	.0797	.8057	.6479
	.1507	.9187	.8420
	.2920	1.0205	1.0384
	.4340	1.0219	1.0406
	.5050	1.0313	1.0609
	.5750	1.0342	1.0655
	.6460	1.0301	1.0564
	.7180	1.0313	1.0609
	.7890	1.0313	1.0609
	.8590	1.0355	1.0677
	.9300	1.0342	1.0655
	1.0000	1.0396	1.0767

Station	z/h	U_l/U_∞	q_l/q_∞
Wake rake	.0000	.4409	.1940
	.0833	.6168	.3796
	.1667	.7421	.5494
	.2081	.8023	.6422
	.2500	.8460	.7140
	.2919	.8856	.7826
	.3338	.9165	.8381
	.3750	.9458	.8927
	.4170	.9766	.9514
	.4580	.9550	.9099
	.5000	.9557	.9113
	.5420	.9560	.9118
	.5830	.9577	.9150
	.6250	.9950	.9878
	.6670	.9956	.9892
	.7080	.9939	.9855
	.7500	.9956	.9892
	.7900	.9939	.9855
	.8333	1.0182	1.0345
	.9170	1.0205	1.0391
	1.0000	1.0192	1.0363

TABLE 3 Continued

CHORDWISE PRESSURE-DISTRIBUTION, BOUNDARY-LAYER, AND WAKE CHARACTERISTICS OF THE MODEL WITH PROPELLER 1 INSTALLED WITH $\beta = 20°$

(f) $n = 48.38$ rps $\frac{U_\infty}{nD} = .978$ $\alpha = -.5°$

Station	x/l	C_p
Port hull	.0146	.607
	.0633	.005
	.1120	-.144
	.1610	-.169
	.2100	-.203
	.2583	-.204
	.3075	-.204
	.3560	-.204
	.4050	-.184
	.4530	-.179
	.5020	-.174
	.5510	-.154
	.6000	-.164
	.6485	-.114
	.6970	-.104
	.7460	-.074
	.7950	-.034
	.8430	-.059
	.8920	-.014
	.9410	.109
St'bd hull	.7800	-.029
	.8195	-.079
	.8680	-.034
	.9160	.044
	.9650	.194

Station	y/h	U_1/U_∞	q_1/q_∞
Port rake	.0177	.4491	.2040
	.0443	.5689	.3234
	.0797	.6489	.4229
	.1507	.7687	.5920
	.2920	.9537	.9104
	.4340	1.0064	1.0149
	.5050	1.0336	1.0697
	.5750	1.0336	1.0697
	.6460	1.0360	1.0746
	.7180	1.0305	1.0647
	.7890	1.0336	1.0697
	.8590	1.0537	1.1144
	.9300	1.0537	1.1144
	1.0000	1.0424	1.0896
St'bd rake	.0177	.6047	.3682
	.0443	.7368	.5423
	.0797	.8122	.6617
	.1507	.9440	.8955
	.2920	1.0479	1.0995
	.4340	1.0390	1.0846
	.5050	1.0508	1.1095
	.5750	1.0479	1.0995
	.6460	1.0454	1.0945
	.7180	1.0454	1.0945
	.7890	1.0479	1.0995
	.8590	1.0454	1.0945
	.9300	1.0508	1.1095
	1.0000	1.0454	1.0945

Station	z/h	U_1/U_∞	q_1/q_∞
Wake rake	.0000	.3678	.1349
	.0833	.6147	.3771
	.1667	.7668	.5865
	.2081	.8315	.6897
	.2500	.8611	.7398
	.2919	.9120	.8298
	.3338	.9336	.8696
	.3750	.9612	.9217
	.4170	.9962	.9902
	.4580	.9660	.9310
	.5000	.9585	.9167
	.5420	.9622	.9237
	.5830	.9622	.9237
	.6250	.9823	.9626
	.6670	.9766	.9514
	.7080	.9766	.9514
	.7500	.9766	.9514
	.7900	.9802	.9585
	.8333	1.0034	1.0045
	.9170	1.0019	1.0015
	1.0000	1.0029	1.0035

TABLE 3 Continued

CHORDWISE PRESSURE-DISTRIBUTION, BOUNDARY-LAYER, AND WAKE CHARACTERISTICS OF THE MODEL WITH PROPELLER 1 INSTALLED WITH β = 20

(E) n = 71.66 rps $\frac{U_\infty}{nD}$ = .976 α = -.5

Station	x/l	C_p
Port hull	.0146	.623
	.0633	.020
	.1120	-.113
	.1610	-.147
	.2100	-.197
	.2583	-.195
	.3075	-.192
	.3560	-.197
	.4050	-.183
	.4530	-.172
	.5020	-.161
	.5510	-.151
	.6000	-.120
	.6485	-.113
	.6970	-.084
	.7460	-.059
	.7950	-.043
	.8430	-.056
	.8920	.000
	.9410	.111
St'bd hull	.7800	-.024
	.8195	-.074
	.8680	-.027
	.9160	.052
	.9650	.174

Station	y/h	U_l/U_∞	q_l/q_∞
Port rake	.0177	.4590	.2086
	.0443	.5732	.3265
	.0797	.6509	.4218
	.1507	.7733	.5941
	.2920	.9641	.9229
	.4340	1.0041	1.0023
	.5050	1.0289	1.0522
	.5750	1.0289	1.0522
	.6460	1.0247	1.0431
	.7180	1.0289	1.0499
	.7890	1.0289	1.0499
	.8590	1.0506	1.0952
	.9300	1.0520	1.0975
	1.0000	1.0464	1.0862
St'bd rake	.0177	.6086	.3673
	.0443	.7245	.5215
	.0797	.7894	.6190
	.1507	.9131	.8277
	.2920	1.0289	1.0522
	.4340	1.0344	1.0612
	.5050	1.0410	1.0771
	.5750	1.0423	1.0794
	.6460	1.0410	1.0771
	.7180	1.0398	1.0748
	.7890	1.0398	1.0726
	.8590	1.0464	1.0862
	.9300	1.0453	1.0839
	1.0000	1.0464	1.0862

Station	z/h	U_l/U_∞	q_l/q_∞
Wake rake	.0000	.4611	.2121
	.0833	.6330	.3997
	.1667	.7920	.6259
	.2081	.8514	.7233
	.2500	.8853	.7821
	.2919	.9264	.8563
	.3338	.9567	.9132
	.3750	.9839	.9659
	.4170	1.0078	1.0134
	.4580	.9533	.9067
	.5000	.9548	.9095
	.5420	.9548	.9095
	.5830	.9557	.9114
	.6250	.9930	.9837
	.6670	.9927	.9833
	.7080	.9924	.9829
	.7500	.9913	.9805
	.7900	.9927	.9833
	.8333	1.0206	1.0393
	.9170	1.0201	1.0383
	1.0000	1.0215	1.0411

TABLE 3 Continued

CHORDWISE PRESSURE-DISTRIBUTION, BOUNDARY-LAYER, AND WAKE CHARACTERISTICS OF THE MODEL WITH PROPELLER 1 INSTALLED WITH $\beta = 20°$

(h) $n = 78.37$ rps $\frac{U_\infty}{nD} = .891$ $\alpha = -.5°$

Station	x/l	C_p
Port hull	.0146	.601
	.0633	.000
	.1120	-.124
	.1610	-.156
	.2100	-.198
	.2583	-.198
	.3075	-.198
	.3560	-.191
	.4050	-.179
	.4530	-.167
	.5020	-.161
	.5510	-.147
	.6000	-.124
	.6485	-.103
	.6970	-.080
	.7460	-.055
	.7950	-.032
	.8430	-.055
	.8920	.004
	.9410	.106
St'bd hull	.7800	-.020
	.8195	-.064
	.8680	-.018
	.9160	.050
	.9650	.175

Station	y/h	U_1/U_∞	q_1/q_∞
Port rake	.0177	.4502	.2028
	.0443	.5719	.3295
	.0797	.6437	.4171
	.1507	.7621	.5829
	.2920	.9378	.8848
	.4340	.9949	.9954
	.5050	1.0243	1.0553
	.5750	1.0228	1.0507
	.6460	1.0243	1.0553
	.7180	1.0243	1.0530
	.7890	1.0259	1.0576
	.8590	1.0446	1.0968
	.9300	1.0446	1.0968
	1.0000	1.0407	1.0876
St'bd rake	.0177	.6170	.3825
	.0443	.7418	.5530
	.0797	.8141	.6659
	.1507	.9305	.8710
	.2920	1.0311	1.0668
	.4340	1.0298	1.0645
	.5050	1.0367	1.0783
	.5750	1.0353	1.0760
	.6460	1.0367	1.0783
	.7180	1.0353	1.0760
	.7890	1.0378	1.0829
	.8590	1.0433	1.0945
	.9300	1.0433	1.0945
	1.0000	1.0433	1.0945

Station	z/h	U_1/U_∞	q_1/q_∞
Wake rake	.0000	.4490	.2012
	.0833	.6639	.4398
	.1667	.8549	.7293
	.2081	.9139	.8331
	.2500	.9366	.8752
	.2919	.9761	.9507
	.3338	1.0023	1.0022
	.3750	1.0247	1.0476
	.4170	1.0449	1.0892
	.4580	.9497	.8998
	.5000	.9506	.9017
	.5420	.9513	.9031
	.5830	.9518	.9040
	.6250	.9897	.9773
	.6670	.9899	.9777
	.7080	.9901	.9781
	.7500	.9887	.9753
	.7900	.9897	.9773
	.8333	1.0180	1.0339
	.9170	1.0170	1.0320
	1.0000	1.0185	1.0349

TABLE 3 Continued

CHORDWISE PRESSURE-DISTRIBUTION, BOUNDARY-LAYER, AND WAKE CHARACTERISTICS OF THE MODEL WITH PROPELLER 1 INSTALLED WITH $\beta = 20°$

(i) n = 55.00 rps $\frac{U_\infty}{nD}$ = .860 α = -.5

Station	x/l	C_p
Port hull	.0146	.613
	.0633	.004
	.1120	-.120
	.1610	-.164
	.2100	-.198
	.2583	-.198
	.3075	-.198
	.3560	-.178
	.4050	-.178
	.4530	-.165
	.5020	-.159
	.5510	-.149
	.6000	-.125
	.6485	-.101
	.6970	-.073
	.7460	-.043
	.7950	-.033
	.8430	-.053
	.8920	-.009
	.9410	.096
St'bd hull	.7800	-.033
	.8195	-.082
	.8680	-.048
	.9160	.043
	.9650	.164

Station	y/h	U_l/U_∞	q_l/q_∞
Port rake	.0177	.4679	.2126
	.0443	.5740	.3188
	.0797	.6485	.4106
	.1507	.7926	.6087
	.2920	.9660	.9082
	.4340	1.0119	1.0000
	.5050	1.0501	1.0725
	.5750	1.0501	1.0725
	.6460	1.0473	1.0676
	.7180	1.0384	1.0483
	.7890	1.0449	1.0628
	.8590	1.0566	1.0870
	.9300	1.0532	1.0821
	1.0000	1.0705	1.1159
St'bd rake	.0177	.6390	.3961
	.0443	.7610	.5652
	.0797	.8224	.6618
	.1507	.9590	.8937
	.2920	1.0449	1.0628
	.4340	1.0473	1.0676
	.5050	1.0648	1.1014
	.5750	1.0648	1.1014
	.6460	1.0648	1.1014
	.7180	1.0566	1.0870
	.7890	1.0566	1.0870
	.8590	1.0501	1.0725
	.9300	1.0501	1.0773
	1.0000	1.0501	1.0773

Station	z/h	U_l/U_∞	q_l/q_∞
Wake rake	.0000	.2519	.0633
	.0833	.6898	.4747
	.1667	.9065	.8198
	.2081	.9654	.9300
	.2500	.9864	.9708
	.2919	1.0195	1.0373
	.3338	1.0410	1.0811
	.3750	1.0541	1.1086
	.4170	1.0429	1.0852
	.4580	.9510	.9025
	.5000	.9527	.9056
	.5420	.9489	.8984
	.5830	.9434	.8882
	.6250	.9817	.9617
	.6670	.9776	.9535
	.7080	.9790	.9565
	.7500	.9764	.9515
	.7900	.9790	.9565
	.8333	1.0110	1.0199
	.9170	1.0095	1.0168
	1.0000	1.0100	1.0178

TABLE 3 Continued

CHORDWISE PRESSURE-DISTRIBUTION, BOUNDARY-LAYER, AND WAKE CHARACTERISTICS OF THE MODEL WITH PROPELLER 1 INSTALLED WITH $\beta = 20°$

(j) $n = 85.02$ rps $\frac{V_\infty}{nD} = .822$ $\alpha = -.5°$

Station	x/l	C_p
Port hull	.0146	.625
	.0633	.011
	.1120	-.115
	.1610	-.152
	.2100	-.184
	.2583	-.175
	.3075	-.182
	.3560	-.180
	.4050	-.170
	.4530	-.175
	.5020	-.150
	.5510	-.150
	.6000	-.115
	.6485	-.101
	.6970	-.076
	.7460	-.053
	.7950	-.025
	.8430	-.046
	.8920	-.004
	.9410	.094
St'bd hull	.7800	-.023
	.8195	-.069
	.8680	-.018
	.9160	.039
	.9650	.150

Station	y/h	U_1/U_∞	q_1/q_∞
Port rake	.0177	.4808	.2333
	.0443	.5985	.3603
	.0797	.6698	.4527
	.1507	.7897	.6282
	.2920	.9637	.9330
	.4340	1.0010	1.0092
	.5050	1.0289	1.0647
	.5750	1.0208	1.0485
	.6460	1.0264	1.0600
	.7180	1.0208	1.0485
	.7890	1.0247	1.0577
	.8590	1.0491	1.1062
	.9300	1.0505	1.1109
	1.0000	1.0451	1.0993
St'bd rake	.0177	.6219	.3880
	.0443	.7401	.5497
	.0797	.8075	.6559
	.1507	.9263	.8637
	.2920	1.0302	1.0670
	.4340	1.0371	1.0808
	.5050	1.0426	1.0924
	.5750	1.0357	1.0785
	.6460	1.0412	1.0901
	.7180	1.0399	1.0878
	.7890	1.0426	1.0924
	.8590	1.0437	1.0970
	.9300	1.0437	1.0970
	1.0000	1.0451	1.0993

Station	z/h	U_1/U_∞	q_1/q_∞
Wake rake	.0000	.4255	.1806
	.0833	.7050	.4959
	.1667	.9324	.8674
	.2081	.9896	.9772
	.2500	1.0068	1.0111
	.2919	1.0433	1.0859
	.3338	1.0644	1.1304
	.3750	1.0781	1.1596
	.4170	1.0787	1.1610
	.4580	.9463	.8934
	.5000	.9463	.8934
	.5420	.9446	.8902
	.5830	.9471	.8949
	.6250	.9841	.9663
	.6670	.9849	.9677
	.7080	.9849	.9677
	.7500	.9841	.9663
	.7900	.9839	.9658
	.8333	1.0133	1.0244
	.9170	1.0138	1.0253
	1.0000	1.0140	1.0259

TABLE 3 Continued

CHORDWISE PRESSURE-DISTRIBUTION, BOUNDARY-LAYER, AND WAKE CHARACTERISTICS OF THE MODEL WITH PROPELLER 1 INSTALLED WITH $\beta = 20°$

(k) n = 61.63 rps $\frac{U_\infty}{nD} = .767$ $\alpha = -.5°$

Station	x/l	C_p
Port hull	.0146	.617
	.0633	-.035
	.1120	-.153
	.1610	-.193
	.2100	-.205
	.2583	-.215
	.3075	-.229
	.3560	-.224
	.4050	-.224
	.4530	-.219
	.5020	-.188
	.5510	-.178
	.6000	-.142
	.6485	-.132
	.6970	-.106
	.7460	-.081
	.7950	-.066
	.8430	-.086
	.8920	-.030
	.9410	.061
St'bd hull	.7800	-.061
	.8195	-.102
	.8680	-.061
	.9160	.010
	.9650	.132

Station	y/h	U_l/U_∞	q_l/q_∞
Port rake	.0177	.4883	.2449
	.0443	.5837	.3520
	.0797	.6618	.4541
	.1507	.8003	.6582
	.2920	.9718	.9745
	.4340	1.0151	1.0612
	.5050	1.0449	1.1224
	.5750	1.0449	1.1224
	.6460	1.0449	1.1224
	.7180	1.0384	1.1071
	.7890	1.0384	1.1122
	.8590	1.0566	1.1480
	.9300	1.0590	1.1531
	1.0000	1.0566	1.1480
St'bd rake	.0177	.6292	.4082
	.0443	.7569	.5867
	.0797	.8261	.7041
	.1507	.9532	.9337
	.2920	1.0618	1.1582
	.4340	1.0590	1.1531
	.5050	1.0501	1.1327
	.5750	1.0590	1.1531
	.6460	1.0566	1.1480
	.7180	1.0648	1.1633
	.7890	1.0590	1.1531
	.8590	1.0648	1.1633
	.9300	1.0618	1.1582
	1.0000	1.0648	1.1633

Station	z/h	U_l/U_∞	q_l/q_∞
Wake rake	.0000	.1865	.0347
	.0833	.7364	.5410
	.1667	.9776	.9535
	.2081	1.0355	1.0699
	.2500	1.0501	1.1005
	.2919	1.0834	1.1710
	.3338	1.0997	1.2067
	.3750	1.1080	1.2251
	.4170	1.0570	1.1148
	.4580	.9553	.9106
	.5000	.9521	.9045
	.5420	.9510	.9025
	.5830	.9473	.8954
	.6250	.9811	.9606
	.6670	.9740	.9463
	.7080	.9776	.9535
	.7500	.9776	.9535
	.7900	.9790	.9565
	.8333	1.0100	1.0178
	.9170	1.0085	1.0148
	1.0000	1.0135	1.0250

TABLE 3 Continued

CHORDWISE PRESSURE-DISTRIBUTION, BOUNDARY-LAYER, AND WAKE CHARACTERISTICS OF THE MODEL WITH PROPELLER 1 INSTALLED WITH $\beta = 20°$

(1) $n = 68.34$ rps $\frac{U_\infty}{nD} = .694$ $\alpha = -.5°$

Station	x/l	C_p
Port hull	.0146	.603
	.0633	-.020
	.1120	-.160
	.1610	-.180
	.2100	-.200
	.2583	-.215
	.3075	-.226
	.3560	-.211
	.4050	-.206
	.4530	-.190
	.5020	-.175
	.5510	-.175
	.6000	-.140
	.6485	-.130
	.6970	-.120
	.7460	-.080
	.7950	-.050
	.8430	-.095
	.8920	-.030
	.9410	.050
St'bd hull	.7800	-.040
	.8195	-.095
	.8680	-.050
	.9160	.005
	.9650	.090

Station	y/h	U_l/U_∞	q_l/q_∞
Port rake	.0177	.4982	.2513
	.0443	.6077	.3769
	.0797	.6789	.4724
	.1507	.8050	.6633
	.2920	.9789	.9749
	.4340	1.0241	1.0704
	.5050	1.0501	1.1256
	.5750	1.0501	1.1256
	.6460	1.0472	1.1206
	.7180	1.0355	1.0955
	.7890	1.0472	1.1156
	.8590	1.0560	1.1357
	.9300	1.0560	1.1357
	1.0000	1.0472	1.1206
St'bd rake	.0177	.6184	.3869
	.0443	.7466	.5678
	.0797	.8280	.6985
	.1507	.9595	.9397
	.2920	1.0472	1.1206
	.4340	1.0536	1.1307
	.5050	1.0501	1.1256
	.5750	1.0501	1.1256
	.6460	1.0501	1.1256
	.7180	1.0560	1.1357
	.7890	1.0560	1.1357
	.8590	1.0501	1.1256
	.9300	1.0536	1.1307
	1.0000	1.0588	1.1407

Station	z/h	U_l/U_∞	q_l/q_∞
Wake rake	.0000	.2277	.0518
	.0833	.7859	.6162
	.1667	1.0622	1.1257
	.2081	1.1191	1.2496
	.2500	1.1281	1.2699
	.2919	1.1575	1.3369
	.3338	1.1680	1.3613
	.3750	1.1636	1.3511
	.4170	1.0501	1.1004
	.4580	.9429	.8872
	.5000	.9370	.8760
	.5420	.9391	.8801
	.5830	.9375	.8771
	.6250	.9774	.9532
	.6670	.9732	.9450
	.7080	.9712	.9411
	.7500	.9722	.9430
	.7900	.9700	.9390
	.8333	1.0085	1.0151
	.9170	1.0097	1.0172
	1.0000	1.0101	1.0181

TABLE 3 Concluded

CHORDWISE PRESSURE-DISTRIBUTION, BOUNDARY-LAYER, AND WAKE CHARACTERISTICS OF THE MODEL WITH PROPELLER 1 INSTALLED WITH $\beta = 20°$

(m) n = 75.00 rps $\frac{U_\infty}{nD}$ = .631 α = -.5°

Station	x/l	C_p
Port hull	.0146	.589
	.0633	.000
	.1120	-.143
	.1610	-.173
	.2100	-.193
	.2583	-.195
	.3075	-.198
	.3560	-.193
	.4050	-.183
	.4530	-.183
	.5020	-.158
	.5510	-.143
	.6000	-.113
	.6485	-.104
	.6970	-.079
	.7460	-.054
	.7950	-.029
	.8430	-.074
	.8920	-.019
	.9410	.029
St'bd hull	.7800	-.039
	.8195	-.094
	.8680	-.039
	.9160	-.005
	.9650	.059

Station	y/h	U_l/U_∞	q_l/q_∞
Port rake	.0177	.4992	.2475
	.0443	.6089	.3713
	.0797	.6935	.4802
	.1507	.8147	.6634
	.2920	.9708	.9406
	.4340	1.0261	1.0495
	.5050	1.0345	1.0693
	.5750	1.0375	1.0792
	.6460	1.0345	1.0693
	.7180	1.0321	1.0644
	.7890	1.0261	1.0545
	.8590	1.0492	1.1040
	.9300	1.0555	1.1139
	1.0000	1.0555	1.1139
St'bd rake	.0177	.6138	.3762
	.0443	.7562	.5743
	.0797	.8110	.6584
	.1507	.9490	.9010
	.2920	1.0492	1.0990
	.4340	1.0492	1.0990
	.5050	1.0463	1.0941
	.5750	1.0463	1.0941
	.6460	1.0463	1.0941
	.7180	1.0463	1.0941
	.7890	1.0463	1.0941
	.8590	1.0492	1.1040
	.9300	1.0492	1.1040
	1.0000	1.0555	1.1139

Station	z/h	U_l/U_∞	q_l/q_∞
Wake rake	.0000	.4686	.2191
	.0833	.8722	.7592
	.1667	1.1776	1.3837
	.2081	1.2380	1.5294
	.2500	1.2352	1.5223
	.2919	1.2621	1.5896
	.3338	1.2617	1.5885
	.3750	1.2405	1.5355
	.4170	1.0090	1.0159
	.4580	.9344	.8712
	.5000	.9240	.8518
	.5420	.9334	.8691
	.5830	.9344	.8712
	.6250	.9688	.9364
	.6670	.9677	.9344
	.7080	.9661	.9314
	.7500	.9661	.9314
	.7900	.9681	.9354
	.8333	1.0064	1.0108
	.9170	1.0050	1.0077
	1.0000	1.0070	1.0118

TABLE 4

CHORDWISE PRESSURE-DISTRIBUTION, BOUNDARY-LAYER, AND WAKE CHARACTERISTICS OF THE MODEL WITH PROPELLER 1 INSTALLED WITH $\beta = 25°$

(a) $n = 43.65$ rps $\frac{U_\infty}{nD} = 1.609$ $\alpha = -.5°$

Station	x/l	C_p
Port hull	.0146	.605
	.0633	.011
	.1120	-.115
	.1610	-.150
	.2100	-.181
	.2583	-.182
	.3075	-.181
	.3560	-.177
	.4050	-.168
	.4530	-.158
	.5020	-.148
	.5510	-.141
	.6000	-.108
	.6485	-.106
	.6970	-.071
	.7460	-.046
	.7950	-.026
	.8430	-.042
	.8920	.026
	.9410	.155
St'bd hull	.7800	-.011
	.8195	-.055
	.8680	-.011
	.9160	.086
	.9650	.248

Station	y/h	U_l/U_∞	q_l/q_∞
Port rake	.0177	.4311	.1818
	.0443	.5399	.2860
	.0797	.6232	.3836
	.1507	.7412	.5410
	.2920	.9259	.8426
	.4340	.9898	.9645
	.5050	1.0268	1.0377
	.5750	1.0199	1.0244
	.6460	1.0226	1.0288
	.7180	1.0226	1.0288
	.7890	1.0240	1.0333
	.8590	1.0534	1.0931
	.9300	1.0534	1.0931
	1.0000	1.0510	1.0865
St'bd rake	.0177	.6191	.3769
	.0443	.7465	.5477
	.0797	.8160	.6563
	.1507	.9394	.8692
	.2920	1.0292	1.0443
	.4340	1.0360	1.0576
	.5050	1.0456	1.0754
	.5750	1.0428	1.0710
	.6460	1.0442	1.0732
	.7180	1.0442	1.0732
	.7890	1.0456	1.0754
	.8590	1.0481	1.0820
	.9300	1.0481	1.0820
	1.0000	1.0467	1.0798

Station	z/h	U_l/U_∞	q_l/q_∞
Wake rake	.0000	.4054	.1639
	.0833	.5188	.2685
	.1667	.6202	.3838
	.2081	.6793	.4604
	.2500	.7468	.5565
	.2919	.7914	.6248
	.3338	.8371	.6992
	.3750	.8855	.7823
	.4170	.9254	.8543
	.4580	.9565	.9129
	.5000	.9631	.9254
	.5420	.9623	.9241
	.5830	.9650	.9291
	.6250	.9977	.9932
	.6670	1.0001	.9979
	.7080	.9980	.9937
	.7500	.9977	.9932
	.7900	1.0018	1.0011
	.8333	1.0201	1.0383
	.9170	1.0222	1.0424
	1.0000	1.0215	1.0411

TABLE 4 Continued

CHORDWISE PRESSURE-DISTRIBUTION, BOUNDARY-LAYER, AND WAKE CHARACTERISTICS OF THE MODEL WITH PROPELLER 1 INSTALLED WITH $\beta = 25°$

(D) n = 46.63 rps $\frac{U_\infty}{nD} = 1.505$ $\alpha = -.5°$

Station	x/l	C_p
Port hull	.0146	.605
	.0633	-.002
	.1120	-.113
	.1610	-.144
	.2100	-.184
	.2583	-.186
	.3075	-.187
	.3560	-.178
	.4050	-.167
	.4530	-.162
	.5020	-.155
	.5510	-.142
	.6000	-.124
	.6485	-.104
	.6970	-.077
	.7460	-.046
	.7950	-.022
	.8430	-.037
	.8920	.024
	.9410	.140
St'bd hull	.7800	-.015
	.8195	-.053
	.8680	-.011
	.9160	.082
	.9650	.233

Station	y/h	U_l/U_∞	q_l/q_∞
Port rake	.0177	.4281	.1804
	.0443	.5450	.2940
	.0797	.6213	.3808
	.1507	.7530	.5590
	.2920	.9382	.8708
	.4340	.9888	.9666
	.5050	1.0219	1.0312
	.5750	1.0192	1.0245
	.6460	1.0247	1.0356
	.7180	1.0206	1.0290
	.7890	1.0233	1.0334
	.8590	1.0473	1.0846
	.9300	1.0463	1.0802
	1.0000	1.0396	1.0668
St'bd rake	.0177	.6236	.3831
	.0443	.7418	.5434
	.0797	.8079	.6459
	.1507	.9367	.8664
	.2920	1.0288	1.0445
	.4340	1.0288	1.0445
	.5050	1.0353	1.0579
	.5750	1.0367	1.0624
	.6460	1.0396	1.0668
	.7180	1.0382	1.0646
	.7890	1.0396	1.0668
	.8590	1.0420	1.0735
	.9300	1.0420	1.0735
	1.0000	1.0407	1.0690

Station	z/h	U_l/U_∞	q_l/q_∞
Wake rake	.0000	.4074	.1656
	.0833	.5433	.2944
	.1667	.6413	.4103
	.2081	.7027	.4926
	.2500	.7625	.5801
	.2919	.8065	.6489
	.3338	.8525	.7252
	.3750	.8965	.8020
	.4170	.9349	.8721
	.4580	.9560	.9117
	.5000	.9616	.9225
	.5420	.9606	.9205
	.5830	.9622	.9239
	.6250	.9975	.9927
	.6670	.9975	.9927
	.7080	.9959	.9894
	.7500	.9963	.9903
	.7900	.9933	.9843
	.8333	1.0194	1.0368
	.9170	1.0201	1.0382
	1.0000	1.0199	1.0378

TABLE 4 Continued

CHORDWISE PRESSURE-DISTRIBUTION, BOUNDARY-LAYER, AND WAKE CHARACTERISTICS OF THE MODEL WITH PROPELLER 1 INSTALLED WITH $\beta = 25$

(c) $n = 32.01$ rps $\frac{U_\infty}{nD} = 1.467$ $\alpha = -.5$

Station	x/l	C_p
Port hull	.0146	.604
	.0633	.000
	.1120	-.138
	.1610	-.183
	.2100	-.198
	.2583	-.203
	.3075	-.207
	.3560	-.198
	.4050	-.193
	.4530	-.188
	.5020	-.158
	.5510	-.148
	.6000	-.118
	.6485	-.104
	.6970	-.076
	.7460	-.049
	.7950	-.039
	.8430	-.044
	.8920	.000
	.9410	.158
St'bd hull	.7800	-.024
	.8195	-.079
	.8680	-.039
	.9160	.064
	.9650	.222

Station	y/h	U_l/U_∞	q_l/q_∞
Port rake	.0177	.4004	.1584
	.0443	.5205	.2673
	.0797	.6033	.3614
	.1507	.7528	.5594
	.2920	.9387	.8713
	.4340	1.0025	.9950
	.5050	1.0410	1.0743
	.5750	1.0385	1.0644
	.6460	1.0325	1.0545
	.7180	1.0291	1.0495
	.7890	1.0291	1.0495
	.8590	1.0621	1.1139
	.9300	1.0646	1.1238
	1.0000	1.0588	1.1089
St'bd rake	.0177	.6177	.3762
	.0443	.7486	.5545
	.0797	.8198	.6634
	.1507	.9452	.8861
	.2920	1.0385	1.0693
	.4340	1.0385	1.0644
	.5050	1.0646	1.1188
	.5750	1.0621	1.1139
	.6460	1.0646	1.1238
	.7180	1.0646	1.1238
	.7890	1.0646	1.1188
	.8590	1.0528	1.0990
	.9300	1.0557	1.1040
	1.0000	1.0557	1.1040

Station	z/h	U_l/U_∞	q_l/q_∞
Wake rake	.0000	.4192	.1753
	.0833	.5726	.3270
	.1667	.6783	.4591
	.2081	.7283	.5292
	.2500	.7890	.6210
	.2919	.8268	.6820
	.3338	.8707	.7563
	.3750	.9123	.8305
	.4170	.9496	.8997
	.4580	.9663	.9316
	.5000	.9593	.9182
	.5420	.9679	.9347
	.5830	.9874	.9729
	.6250	1.0185	1.0348
	.6670	1.0334	1.0658
	.7080	1.0163	1.0306
	.7500	1.0138	1.0254
	.7900	1.0092	1.0162
	.8333	1.0295	1.0575
	.9170	1.0396	1.0781
	1.0000	1.0265	1.0512

TABLE 4 Continued

CHORDWISE PRESSURE-DISTRIBUTION, BOUNDARY-LAYER, AND WAKE CHARACTERISTICS OF THE MODEL WITH PROPELLER 1 INSTALLED WITH $\beta = 25°$

(d) n = 50.00 rps $\frac{U_\infty}{nD} = 1.400$ $\alpha = -.5°$

Station	x/l	C_p
Port hull	.0146	.612
	.0633	.006
	.1120	-.119
	.1610	-.157
	.2100	-.193
	.2583	-.194
	.3075	-.193
	.3560	-.180
	.4050	-.168
	.4530	-.162
	.5020	-.157
	.5510	-.141
	.6000	-.105
	.6485	-.101
	.6970	-.080
	.7460	-.049
	.7950	-.027
	.8430	-.040
	.8920	.020
	.9410	.137
St'bd hull	.7800	-.015
	.8195	-.060
	.8680	-.013
	.9160	.076
	.9650	.214

Station	y/h	U_l/U_∞	q_l/q_∞
Port rake	.0177	.4364	.1892
	.0443	.5568	.3086
	.0797	.6366	.4009
	.1507	.7552	.5653
	.2920	.9395	.8761
	.4340	.9935	.9797
	.5050	1.0250	1.0428
	.5750	1.0195	1.0315
	.6460	1.0264	1.0450
	.7180	1.0223	1.0360
	.7890	1.0223	1.0383
	.8590	1.0452	1.0856
	.9300	1.0494	1.0923
	1.0000	1.0427	1.0788
St'bd rake	.0177	.6099	.3694
	.0443	.7382	.5405
	.0797	.8103	.6509
	.1507	.9308	.8604
	.2920	1.0329	1.0608
	.4340	1.0329	1.0608
	.5050	1.0398	1.0743
	.5750	1.0398	1.0721
	.6460	1.0438	1.0811
	.7180	1.0413	1.0766
	.7890	1.0398	1.0743
	.8590	1.0427	1.0788
	.9300	1.0427	1.0788
	1.0000	1.0413	1.0766

Station	z/h	U_l/U_∞	q_l/q_∞
Wake rake	.0000	.4177	.1742
	.0833	.5698	.3239
	.1667	.6745	.4540
	.2081	.7335	.5367
	.2500	.7890	.6210
	.2919	.8365	.6982
	.3338	.8760	.7656
	.3750	.9176	.8401
	.4170	.9543	.9089
	.4580	.9588	.9173
	.5000	.9624	.9243
	.5420	.9620	.9233
	.5830	.9639	.9271
	.6250	.9945	.9871
	.6670	.9971	.9921
	.7080	.9950	.9879
	.7500	.9955	.9889
	.7900	.9963	.9903
	.8333	1.0225	1.0432
	.9170	1.0215	1.0414
	1.0000	1.0229	1.0441

TABLE 4 Continued

CHORDWISE PRESSURE-DISTRIBUTION, BOUNDARY-LAYER, AND WAKE CHARACTERISTICS OF THE MODEL WITH PROPELLER 1 INSTALLED WITH $\beta = 25$

(e) $n = 34.19$ rps $\frac{U_\infty}{nD} = 1.370$ $\alpha = -.5$

Station	x/l	C_p
Port hull	.0146	.586
	.0633	-.051
	.1120	-.158
	.1610	-.188
	.2100	-.219
	.2583	-.219
	.3075	-.219
	.3560	-.193
	.4050	-.193
	.4530	-.193
	.5020	-.168
	.5510	-.148
	.6000	-.122
	.6485	-.106
	.6970	-.086
	.7460	-.066
	.7950	-.045
	.8430	-.071
	.8920	-.010
	.9410	.122
St'bd hull	.7800	-.040
	.8195	-.117
	.8680	-.045
	.9160	.056
	.9650	.209

Station	y/h	U_l/U_∞	q_l/q_∞
Port rake	.0177	.4165	.1786
	.0443	.5217	.2755
	.0797	.6141	.3827
	.1507	.7421	.5561
	.2920	.9275	.8724
	.4340	.9981	1.0102
	.5050	1.0289	1.0714
	.5750	1.0315	1.0816
	.6460	1.0289	1.0714
	.7180	1.0162	1.0510
	.7890	1.0260	1.0663
	.8590	1.0582	1.1378
	.9300	1.0553	1.1327
	1.0000	1.0528	1.1224
St'bd rake	.0177	.6250	.3980
	.0443	.7504	.5714
	.0797	.8136	.6735
	.1507	.9408	.8980
	.2920	1.0410	1.0969
	.4340	1.0434	1.1071
	.5050	1.0528	1.1224
	.5750	1.0528	1.1224
	.6460	1.0528	1.1224
	.7180	1.0498	1.1173
	.7890	1.0528	1.1224
	.8590	1.0498	1.1173
	.9300	1.0528	1.1224
	1.0000	1.0464	1.1122

Station	z/h	U_l/U_∞	q_l/q_∞
Wake rake	.0000	.3800	.1441
	.0833	.5820	.3380
	.1667	.7121	.5059
	.2081	.7696	.5909
	.2500	.8129	.6593
	.2919	.8619	.7412
	.3338	.9002	.8086
	.3750	.9359	.8739
	.4170	.9734	.9455
	.4580	.9675	.9341
	.5000	.9664	.9319
	.5420	.9679	.9350
	.5830	.9686	.9361
	.6250	.9950	.9879
	.6670	.9966	.9910
	.7080	.9924	.9828
	.7500	.9950	.9879
	.7900	.9919	.9817
	.8333	1.0162	1.0304
	.9170	1.0209	1.0397
	1.0000	1.0187	1.0357

TABLE 4 Continued

CHORDWISE PRESSURE–DISTRIBUTION, BOUNDARY-LAYER, AND WAKE CHARACTERISTICS

OF THE MODEL WITH PROPELLER 1 INSTALLED WITH $\beta = 25°$

(f) $n = 53.31$ rps $\frac{U_\infty}{nD} = 1.311$ $\alpha = -.5°$

Station	x/l	C_p
Port hull	.0146	.598
	.0633	-.004
	.1120	-.132
	.1610	-.154
	.2100	-.188
	.2583	-.188
	.3075	-.188
	.3560	-.181
	.4050	-.170
	.4530	-.160
	.5020	-.152
	.5510	-.136
	.6000	-.109
	.6485	-.096
	.6970	-.070
	.7460	-.042
	.7950	-.031
	.8430	-.051
	.8920	.020
	.9410	.134
St'bd hull	.7800	-.017
	.8195	-.056
	.8680	-.015
	.9160	.078
	.9650	.219

Station	y/h	U_l/U_∞	q_l/q_∞
Port rake	.0177	.4335	.1839
	.0443	.5452	.2915
	.0797	.6289	.3901
	.1507	.7508	.5561
	.2920	.9326	.8565
	.4340	.9954	.9753
	.5050	1.0298	1.0448
	.5750	1.0216	1.0269
	.6460	1.0256	1.0359
	.7180	1.0243	1.0336
	.7890	1.0232	1.0291
	.8590	1.0501	1.0852
	.9300	1.0501	1.0852
	1.0000	1.0418	1.0695
St'bd rake	.0177	.6357	.3969
	.0443	.7567	.5628
	.0797	.8257	.6704
	.1507	.9563	.8991
	.2920	1.0350	1.0561
	.4340	1.0380	1.0605
	.5050	1.0472	1.0807
	.5750	1.0472	1.0807
	.6460	1.0460	1.0762
	.7180	1.0460	1.0762
	.7890	1.0434	1.0717
	.8590	1.0472	1.0785
	.9300	1.0472	1.0807
	1.0000	1.0501	1.0852

Station	z/h	U_l/U_∞	q_l/q_∞
Wake rake	.0000	.4236	.1790
	.0833	.5935	.3514
	.1667	.7155	.5107
	.2081	.7764	.6014
	.2500	.8215	.6733
	.2919	.8683	.7522
	.3338	.9078	.8223
	.3750	.9417	.8847
	.4170	.9731	.9448
	.4580	.9570	.9139
	.5000	.9588	.9171
	.5420	.9592	.9181
	.5830	.9594	.9186
	.6250	.9973	.9923
	.6670	.9966	.9909
	.7080	.9961	.9900
	.7500	.9973	.9923
	.7900	.9975	.9928
	.8333	1.0224	1.0431
	.9170	1.0211	1.0403
	1.0000	1.0229	1.0440

TABLE 4 Continued

CHORDWISE PRESSURE-DISTRIBUTION, BOUNDARY-LAYER, AND WAKE CHARACTERISTICS OF THE MODEL WITH PROPELLER 1 INSTALLED WITH $\beta = 25$

(g) $n = 36.65$ rps $\frac{U_\infty}{nD} = 1.278$ $\alpha = -.5$

Station	x/l	C_p
Port hull	.0146	.618
	.0633	-.020
	.1120	-.154
	.1610	-.190
	.2100	-.211
	.2583	-.201
	.3075	-.211
	.3560	-.211
	.4050	-.190
	.4530	-.185
	.5020	-.180
	.5510	-.164
	.6000	-.139
	.6485	-.118
	.6970	-.087
	.7460	-.061
	.7950	-.036
	.8430	-.077
	.8920	.010
	.9410	.108
St'bd hull	.7800	-.030
	.8195	-.077
	.8680	-.036
	.9160	.077
	.9650	.226

Station	y/h	U_l/U_∞	q_l/q_∞
Port rake	.0177	.4165	.1804
	.0443	.5508	.3093
	.0797	.6340	.4124
	.1507	.7628	.5979
	.2920	.9572	.9381
	.4340	1.0162	1.0619
	.5050	1.0349	1.0979
	.5750	1.0289	1.0825
	.6460	1.0289	1.0876
	.7180	1.0349	1.0979
	.7890	1.0349	1.0979
	.8590	1.0613	1.1546
	.9300	1.0613	1.1546
	1.0000	1.0553	1.1443
St'bd rake	.0177	.6250	.4021
	.0443	.7594	.5876
	.0797	.8249	.7010
	.1507	.9408	.9072
	.2920	1.0410	1.1082
	.4340	1.0410	1.1134
	.5050	1.0434	1.1186
	.5750	1.0464	1.1237
	.6460	1.0498	1.1289
	.7180	1.0434	1.1186
	.7890	1.0434	1.1186
	.8590	1.0528	1.1392
	.9300	1.0528	1.1340
	1.0000	1.0553	1.1443

Station	z/h	U_l/U_∞	q_l/q_∞
Wake rake	.0000	.3760	.1409
	.0833	.5900	.3472
	.1667	.7308	.5329
	.2081	.7895	.6220
	.2500	.8368	.6988
	.2919	.8816	.7754
	.3338	.9196	.8439
	.3750	.9551	.9102
	.4170	.9830	.9641
	.4580	.9626	.9247
	.5000	.9633	.9257
	.5420	.9647	.9288
	.5830	.9664	.9319
	.6250	.9924	.9828
	.6670	.9955	.9890
	.7080	.9908	.9796
	.7500	.9919	.9817
	.7900	.9883	.9745
	.8333	1.0183	1.0346
	.9170	1.0187	1.0357
	1.0000	1.0218	1.0418

TABLE 4 Continued

CHORDWISE PRESSURE-DISTRIBUTION, BOUNDARY-LAYER, AND WAKE CHARACTERISTICS OF THE MODEL WITH PROPELLER 1 INSTALLED WITH $\beta = 25°$

(h) $n = 56.61$ rps $\frac{U_\infty}{nD} = 1.234$ $\alpha = -.5°$

Station	x/l	C_p
Port hull	.0146	.603
	.0633	-.002
	.1120	-.123
	.1610	-.154
	.2100	-.189
	.2583	-.189
	.3075	-.189
	.3560	-.182
	.4050	-.173
	.4530	-.182
	.5020	-.152
	.5510	-.145
	.6000	-.123
	.6485	-.102
	.6970	-.071
	.7460	-.041
	.7950	-.027
	.8430	-.054
	.8920	.013
	.9410	.125
St'bd hull	.7800	-.018
	.8195	-.066
	.8680	-.018
	.9150	.068
	.9650	.211

Station	y/h	U_l/U_∞	q_l/q_∞
Port rake	.0177	.4489	.2027
	.0443	.5633	.3166
	.0797	.6379	.4077
	.1507	.7642	.5831
	.2920	.9461	.8952
	.4340	.9995	1.0000
	.5050	1.0285	1.0569
	.5750	1.0243	1.0478
	.6460	1.0285	1.0569
	.7180	1.0256	1.0524
	.7890	1.0256	1.0524
	.8590	1.0501	1.1025
	.9300	1.0486	1.1002
	1.0000	1.0418	1.0843
St'bd rake	.0177	.6289	.3964
	.0443	.7492	.5604
	.0797	.8223	.6765
	.1507	.9504	.9043
	.2920	1.0311	1.0638
	.4340	1.0271	1.0547
	.5050	1.0350	1.0729
	.5750	1.0350	1.0706
	.6460	1.0380	1.0774
	.7180	1.0350	1.0706
	.7890	1.0350	1.0706
	.8590	1.0418	1.0843
	.9300	1.0418	1.0866
	1.0000	1.0447	1.0911

Station	z/h	U_l/U_∞	q_l/q_∞
Wake rake	.0000	.4291	.1837
	.0833	.6108	.3722
	.1667	.7551	.5690
	.2081	.8117	.6574
	.2500	.8477	.7170
	.2919	.8937	.7969
	.3338	.9302	.8631
	.3750	.9626	.9246
	.4170	.9905	.9787
	.4580	.9513	.9030
	.5000	.9529	.9059
	.5420	.9529	.9059
	.5830	.9558	.9115
	.6250	.9905	.9787
	.6670	.9899	.9777
	.7080	.9890	.9759
	.7500	.9885	.9749
	.7900	.9905	.9787
	.8333	1.0162	1.0304
	.9170	1.0156	1.0290
	1.0000	1.0162	1.0304

TABLE 4 Continued

CHORDWISE PRESSURE-DISTRIBUTION, BOUNDARY-LAYER, AND WAKE CHARACTERISTICS OF THE MODEL WITH PROPELLER 1 INSTALLED WITH β = 25°

(1) n = 40.00 rps $\frac{U_\infty}{nD}$ = 1.164 α = -.5°

Station	x/l	C_p
Port hull	.0146	.601
	.0633	-.010
	.1120	-.139
	.1610	-.160
	.2100	-.217
	.2583	-.225
	.3075	-.233
	.3560	-.202
	.4050	-.196
	.4530	-.186
	.5020	-.176
	.5510	-.155
	.6000	-.134
	.6485	-.139
	.6970	-.102
	.7460	-.072
	.7950	-.046
	.8430	-.057
	.8920	-.005
	.9410	.103
St'bd hull	.7800	-.046
	.8195	-.093
	.8680	-.031
	.9160	.046
	.9650	.186

Station	y/h	U_l/U_∞	q_l/q_∞
Port rake	.0177	.4338	.1917
	.0443	.5597	.3212
	.0797	.6427	.4197
	.1507	.7754	.6114
	.2920	.9530	.9223
	.4340	1.0041	1.0259
	.5050	1.0320	1.0829
	.5750	1.0320	1.0829
	.6460	1.0376	1.0984
	.7180	1.0258	1.0725
	.7890	1.0258	1.0725
	.8590	1.0526	1.1295
	.9300	1.0471	1.1192
	1.0000	1.0471	1.1192
St'bd rake	.0177	.5971	.3627
	.0443	.7293	.5440
	.0797	.8034	.6580
	.1507	.9262	.8756
	.2920	1.0410	1.1036
	.4340	1.0350	1.0933
	.5050	1.0410	1.1036
	.5750	1.0376	1.0984
	.6460	1.0441	1.1088
	.7180	1.0441	1.1088
	.7890	1.0376	1.0984
	.8590	1.0471	1.1192
	.9300	1.0496	1.1244
	1.0000	1.0526	1.1295

Station	z/h	U_l/U_∞	q_l/q_∞
Wake rake	.0000	.3538	.1248
	.0833	.6246	.3892
	.1667	.7981	.6355
	.2081	.8573	.7332
	.2500	.8868	.7845
	.2919	.9290	.8611
	.3338	.9607	.9208
	.3750	.9855	.9691
	.4170	1.0124	1.0225
	.4580	.9596	.9187
	.5000	.9651	.9292
	.5420	.9628	.9250
	.5830	.9635	.9261
	.6250	.9909	.9795
	.6670	.9909	.9795
	.7080	.9909	.9795
	.7500	.9924	.9827
	.7900	.9924	.9827
	.8333	1.0207	1.0393
	.9170	1.0207	1.0393
	1.0000	1.0201	1.0383

TABLE 4 Continued

CHORDWISE PRESSURE-DISTRIBUTION, BOUNDARY-LAYER, AND WAKE CHARACTERISTICS OF THE MODEL WITH PROPELLER 1 INSTALLED WITH $\beta = 25°$

(j) n = 60.01 rps $\frac{U_\infty}{nD} = 1.159$ $\alpha = -.5°$

Station	x/l	C_p
Port hull	.0146	.586
	.0633	-.004
	.1120	-.125
	.1610	-.159
	.2100	-.191
	.2583	-.193
	.3075	-.194
	.3560	-.182
	.4050	-.180
	.4530	-.178
	.5020	-.148
	.5510	-.148
	.6000	-.127
	.6485	-.107
	.6970	-.083
	.7460	-.059
	.7950	-.036
	.8430	-.050
	.8920	.006
	.9410	.116
St'bd hull	.7800	-.022
	.8195	-.070
	.8680	-.025
	.9160	.059
	.9650	.194

Station	y/h	U_l/U_∞	q_l/q_∞
Port rake	.0177	.4418	.1941
	.0443	.5602	.3128
	.0797	.6405	.4087
	.1507	.7652	.5822
	.2920	.9380	.8744
	.4340	.9950	.9840
	.5050	1.0286	1.0525
	.5750	1.0219	1.0365
	.6460	1.0219	1.0388
	.7180	1.0244	1.0434
	.7890	1.0219	1.0388
	.8590	1.0462	1.0868
	.9300	1.0437	1.0822
	1.0000	1.0393	1.0753
St'bd rake	.0177	.6405	.4064
	.0443	.7463	.5548
	.0797	.8309	.6849
	.1507	.9529	.9018
	.2920	1.0274	1.0479
	.4340	1.0286	1.0502
	.5050	1.0382	1.0708
	.5750	1.0393	1.0731
	.6460	1.0410	1.0776
	.7180	1.0424	1.0799
	.7890	1.0382	1.0708
	.8590	1.0424	1.0799
	.9300	1.0410	1.0776
	1.0000	1.0424	1.0799

Station	z/h	U_l/U_∞	q_l/q_∞
Wake rake	.0000	.4042	.1630
	.0833	.6327	.3994
	.1667	.8124	.6585
	.2081	.8687	.7528
	.2500	.8939	.7973
	.2919	.9355	.8732
	.3338	.9676	.9343
	.3750	.9958	.9892
	.4170	1.0161	1.0300
	.4580	.9498	.9002
	.5000	.9529	.9059
	.5420	.9529	.9059
	.5830	.9540	.9083
	.6250	.9886	.9750
	.6670	.9895	.9770
	.7080	.9873	.9727
	.7500	.9895	.9770
	.7900	.9891	.9760
	.8333	1.0186	1.0352
	.9170	1.0174	1.0329
	1.0000	1.0188	1.0357

TABLE 4 Continued

CHORDWISE PRESSURE-DISTRIBUTION, BOUNDARY-LAYER, AND WAKE CHARACTERISTICS OF THE MODEL WITH PROPELLER 1 INSTALLED WITH $\beta = 25°$

(k) $n = 63.36$ rps $\frac{U_\infty}{nD} = 1.093$ $\alpha = -.5°$

Station	x/l	C_p
Port hull	.0146	.600
	.0633	.004
	.1120	-.115
	.1610	-.147
	.2100	-.189
	.2583	-.194
	.3075	-.194
	.3560	-.180
	.4050	-.180
	.4530	-.177
	.5020	-.152
	.5510	-.143
	.6000	-.115
	.6485	-.092
	.6970	-.073
	.7460	-.053
	.7950	-.027
	.8430	-.048
	.8920	.011
	.9410	.110
St'bd hull	.7800	-.020
	.8195	-.062
	.8680	-.027
	.9160	.055
	.9650	.177

Station	y/h	U_l/U_∞	q_l/q_∞
Port rake	.0177	.4528	.2055
	.0443	.5704	.3256
	.0797	.6389	.4065
	.1507	.7591	.5751
	.2920	.9406	.8822
	.4340	.9937	.9838
	.5050	1.0234	1.0439
	.5750	1.0208	1.0393
	.6460	1.0234	1.0439
	.7180	1.0208	1.0393
	.7890	1.0249	1.0462
	.8590	1.0456	1.0901
	.9300	1.0469	1.0924
	1.0000	1.0386	1.0762
St'bd rake	.0177	.6136	.3741
	.0443	.7325	.5358
	.0797	.8118	.6559
	.1507	.9361	.8730
	.2920	1.0290	1.0554
	.4340	1.0264	1.0508
	.5050	1.0414	1.0808
	.5750	1.0400	1.0785
	.6460	1.0414	1.0808
	.7180	1.0386	1.0762
	.7890	1.0373	1.0716
	.8590	1.0386	1.0739
	.9300	1.0386	1.0739
	1.0000	1.0386	1.0762

Station	z/h	U_l/U_∞	q_l/q_∞
Wake rake	.0000	.3940	.1549
	.0833	.6448	.4148
	.1667	.8397	.7036
	.2081	.8926	.7949
	.2500	.9138	.8331
	.2919	.9560	.9120
	.3338	.9871	.9722
	.3750	1.0126	1.0229
	.4170	1.0268	1.0521
	.4580	.9501	.9005
	.5000	.9517	.9039
	.5420	.9510	.9025
	.5830	.9517	.9039
	.6250	.9895	.9770
	.6670	.9910	.9799
	.7080	.9891	.9761
	.7500	.9895	.9770
	.7900	.9883	.9746
	.8333	1.0172	1.0324
	.9170	1.0182	1.0344
	1.0000	1.0187	1.0353

TABLE 4 Continued

CHORDWISE PRESSURE-DISTRIBUTION, BOUNDARY-LAYER, AND WAKE CHARACTERISTICS OF THE MODEL WITH PROPELLER 1 INSTALLED WITH $\beta = 25°$

(1) $n = 43.40$ rps $\frac{U_\infty}{nD} = 1.074$ $\alpha = -.5°$

Station	x/l	C_p
Port hull	.0146	.610
	.0633	.024
	.1120	-.123
	.1610	-.157
	.2100	-.187
	.2583	-.195
	.3075	-.197
	.3560	-.167
	.4050	-.177
	.4530	-.162
	.5020	-.147
	.5510	-.128
	.6000	-.108
	.6485	-.108
	.6970	-.070
	.7460	-.044
	.7950	-.039
	.8430	-.039
	.8920	.024
	.9410	.118
St'bd hull	.7800	-.019
	.8195	-.049
	.8680	-.009
	.9160	.064
	.9650	.177

Station	y/h	U_l/U_∞	q_l/q_∞
Port rake	.0177	.4738	.2167
	.0443	.5812	.3251
	.0797	.6527	.4138
	.1507	.7868	.6010
	.2920	.9782	.9261
	.4340	1.0186	1.0049
	.5050	1.0580	1.0837
	.5750	1.0516	1.0739
	.6460	1.0461	1.0591
	.7180	1.0461	1.0640
	.7890	1.0516	1.0739
	.8590	1.0580	1.0887
	.9300	1.0580	1.0837
	1.0000	1.0516	1.0739
St'bd rake	.0177	.6566	.4187
	.0443	.7541	.5517
	.0797	.8220	.6552
	.1507	.9521	.8818
	.2920	1.0431	1.0542
	.4340	1.0400	1.0493
	.5050	1.0580	1.0887
	.5750	1.0580	1.0837
	.6460	1.0486	1.0690
	.7180	1.0550	1.0788
	.7890	1.0486	1.0690
	.8590	1.0486	1.0690
	.9300	1.0516	1.0739
	1.0000	1.0516	1.0739

Station	z/h	U_l/U_∞	q_l/q_∞
Wake rake	.0000	.3072	.0942
	.0833	.6381	.4061
	.1667	.8557	.7306
	.2081	.9080	.8227
	.2500	.9382	.8782
	.2919	.9723	.9431
	.3338	1.0073	1.0122
	.3750	1.0263	1.0509
	.4170	1.0289	1.0562
	.4580	.9554	.9106
	.5000	.9570	.9138
	.5420	.9549	.9097
	.5830	.9597	.9190
	.6250	.9893	.9766
	.6670	.9925	.9829
	.7080	.9893	.9766
	.7500	.9915	.9808
	.7900	.9899	.9776
	.8333	1.0166	1.0310
	.9170	1.0182	1.0342
	1.0000	1.0212	1.0405

TABLE 4 Continued

CHORDWISE PRESSURE-DISTRIBUTION, BOUNDARY-LAYER, AND WAKE CHARACTERISTICS OF THE MODEL WITH PROPELLER 1 INSTALLED WITH $\beta = 25$

(m) $n = 66.67$ rps $\frac{U_\infty}{nD} = 1.043$ $\alpha = -.5$

Station	x/l	C_p
Port hull	.0146	.600
	.0633	-.015
	.1120	-.122
	.1610	-.159
	.2100	-.197
	.2583	-.196
	.3075	-.195
	.3560	-.186
	.4050	-.181
	.4530	-.184
	.5020	-.156
	.5510	-.140
	.6000	-.111
	.6485	-.106
	.6970	-.078
	.7460	-.047
	.7950	-.036
	.8430	-.054
	.8920	.004
	.9410	.104
St'bd hull	.7800	-.020
	.8195	-.065
	.8680	-.018
	.9160	.047
	.9650	.172

Station	y/h	U_1/U_∞	q_1/q_∞
Port rake	.0177	.4610	.2091
	.0443	.5731	.3250
	.0797	.6496	.4182
	.1507	.7693	.5841
	.2920	.9353	.8636
	.4340	.9969	.9818
	.5050	1.0263	1.0409
	.5750	1.0209	1.0295
	.6460	1.0248	1.0386
	.7180	1.0235	1.0364
	.7890	1.0263	1.0409
	.8590	1.0466	1.0841
	.9300	1.0466	1.0841
	1.0000	1.0398	1.0705
St'bd rake	.0177	.6204	.3818
	.0443	.7431	.5455
	.0797	.8157	.6591
	.1507	.9339	.8614
	.2920	1.0304	1.0500
	.4340	1.0291	1.0477
	.5050	1.0441	1.0773
	.5750	1.0414	1.0727
	.5460	1.0428	1.0750
	.7180	1.0441	1.0773
	.7890	1.0428	1.0750
	.8590	1.0441	1.0773
	.9300	1.0441	1.0773
	1.0000	1.0441	1.0773

Station	z/h	U_1/U_∞	q_1/q_∞
Wake rake	.0000	.3936	.1546
	.0833	.6583	.4325
	.1667	.8759	.7654
	.2081	.9255	.8545
	.2500	.9435	.8882
	.2919	.9844	.9669
	.3338	1.0121	1.0219
	.3750	1.0329	1.0646
	.4170	1.0382	1.0754
	.4580	.9468	.8943
	.5000	.9487	.8982
	.5420	.9485	.8976
	.5830	.9521	.9043
	.6250	.9905	.9788
	.6670	.9938	.9853
	.7080	.9895	.9769
	.7500	.9897	.9773
	.7900	.9895	.9769
	.8333	1.0149	1.0276
	.9170	1.0165	1.0309
	1.0000	1.0165	1.0309

TABLE 4 Continued

CHORDWISE PRESSURE-DISTRIBUTION, BOUNDARY-LAYER, AND WAKE CHARACTERISTICS

OF THE MODEL WITH PROPELLER 1 INSTALLED WITH $\beta = 25°$

(n) n = 46.63 rps $\frac{U_\infty}{nD}$ = .997 α = -.5

Station	x/l	C_p
Port hull	.0146	.583
	.0633	-.020
	.1120	-.142
	.1610	-.172
	.2583	-.218
	.3075	-.213
	.3560	-.223
	.4050	-.218
	.4530	-.208
	.5020	-.187
	.5510	-.152
	.6000	-.116
	.6485	-.089
	.6970	-.102
	.7460	-.076
	.7950	-.071
	.8430	-.076
	.8920	-.030
	.9410	.076
St'bd hull	.7800	-.045
	.8195	-.091
	.8680	-.035
	.9160	.035
	.9550	.157

Station	y/h	U_l/U_∞	q_l/q_∞
Port rake	.0177	.4475	.2030
	.0443	.5660	.3198
	.0797	.6345	.4010
	.1507	.7798	.6041
	.2920	.9675	.9340
	.4340	1.0211	1.0406
	.5050	1.0486	1.0914
	.5750	1.0390	1.0761
	.6460	1.0334	1.0609
	.7180	1.0236	1.0457
	.7890	1.0236	1.0457
	.8590	1.0575	1.1117
	.9300	1.0541	1.1066
	1.0000	1.0541	1.1066
St'bd rake	.0177	.6091	.3706
	.0443	.7439	.5482
	.0797	.8084	.6497
	.1507	.9411	.8832
	.2920	1.0425	1.0812
	.4340	1.0456	1.0863
	.5050	1.0575	1.1117
	.5750	1.0605	1.1218
	.6460	1.0541	1.1066
	.7180	1.0541	1.1066
	.7890	1.0541	1.1066
	.8590	1.0486	1.0964
	.9300	1.0511	1.1015
	1.0000	1.0541	1.1066

Station	z/h	U_l/U_∞	q_l/q_∞
Wake rake	.0000	.2922	.0852
	.0833	.6787	.4597
	.1667	.9126	.8310
	.2081	.9620	.9235
	.2500	.9788	.9561
	.2919	1.0112	1.0203
	.3338	1.0425	1.0845
	.3750	1.0561	1.1128
	.4170	1.0354	1.0697
	.4580	.9533	.9067
	.5000	.9543	.9088
	.5420	.9528	.9057
	.5830	.9549	.9099
	.6250	.9842	.9666
	.6670	.9854	.9688
	.7080	.9832	.9646
	.7500	.9848	.9677
	.7900	.9864	.9708
	.8333	1.0123	1.0224
	.9170	1.0112	1.0203
	1.0000	1.0138	1.0256

TABLE 4 Continued

CHORDWISE PRESSURE-DISTRIBUTION, BOUNDARY-LAYER, AND WAKE CHARACTERISTICS OF THE MODEL WITH PROPELLER 1 INSTALLED WITH $\beta = 25$

(○) n = 70.02 rps $\frac{U_\infty}{nD}$ = .989 α = -.5

Station	x/l	C_p
Port hull	.0146	.595
	.0633	-.009
	.1120	-.128
	.1610	-.153
	.2100	-.194
	.2583	-.193
	.3075	-.192
	.3560	-.187
	.4050	-.178
	.4530	-.172
	.5020	-.160
	.5510	-.146
	.6000	-.114
	.6485	-.112
	.6970	-.080
	.7460	-.052
	.7950	-.032
	.8430	-.052
	.8920	.000
	.9410	.091
St'bd hull	.7800	-.025
	.8195	-.073
	.9160	.045
	.9650	.160

Station	y/h	U_l/U_∞	q_l/q_∞
Port rake	.0177	.4720	.2197
	.0443	.5852	.3387
	.0797	.6610	.4325
	.1507	.7867	.6110
	.2920	.9556	.9016
	.4340	1.0023	.9908
	.5050	1.0345	1.0572
	.5750	1.0320	1.0503
	.6460	1.0320	1.0503
	.7180	1.0331	1.0526
	.7890	1.0303	1.0481
	.8590	1.0508	1.0892
	.9300	1.0494	1.0870
	1.0000	1.0414	1.0709
St'bd rake	.0177	.6321	.3959
	.0443	.7477	.5515
	.0797	.8224	.6682
	.1507	.9452	.8810
	.2920	1.0428	1.0732
	.4340	1.0386	1.0641
	.5050	1.0508	1.0892
	.5750	1.0494	1.0870
	.6460	1.0494	1.0870
	.7180	1.0469	1.0824
	.7890	1.0456	1.0801
	.8590	1.0469	1.0824
	.9300	1.0483	1.0847
	1.0000	1.0494	1.0870

Station	z/h	U_l/U_∞	q_l/q_∞
Wake rake	.0000	.3854	.1481
	.0833	.6796	.4607
	.1667	.9106	.8274
	.2081	.9620	.9234
	.2500	.9778	.9541
	.2919	1.0177	1.0334
	.3338	1.0446	1.0889
	.3750	1.0621	1.1256
	.4170	1.0578	1.1166
	.4580	.9477	.8962
	.5000	.9505	.9015
	.5420	.9487	.8982
	.5830	.9515	.9034
	.6250	.9900	.9779
	.6670	.9937	.9851
	.7080	.9900	.9779
	.7500	.9910	.9799
	.7900	.9905	.9789
	.8333	1.0187	1.0353
	.9170	1.0212	1.0406
	1.0000	1.0187	1.0353

TABLE 4 Continued

CHORDWISE PRESSURE-DISTRIBUTION, BOUNDARY-LAYER, AND WAKE CHARACTERISTICS OF THE MODEL WITH PROPELLER 1 INSTALLED WITH $\beta = 25$

(p) n = 71.66 rps $\frac{U_\infty}{nD} = .968$ $\alpha = -.5$

Station	x/l	C_p
Port hull	.0146	.614
	.0633	.007
	.1120	-.116
	.1610	-.153
	.2100	-.188
	.2583	-.189
	.3075	-.190
	.3560	-.190
	.4050	-.176
	.4530	-.179
	.5020	-.158
	.5510	-.146
	.6000	-.130
	.6485	-.109
	.6970	-.077
	.7460	-.051
	.7950	-.032
	.8430	-.058
	.8920	-.002
	.9410	.093
St'bd hull	.7800	-.027
	.8195	-.069
	.8680	-.030
	.9160	.041
	.9650	.158

Station	y/h	U_l/U_∞	q_l/q_∞
Port rake	.0177	.4678	.2209
	.0443	.5869	.3465
	.0797	.6554	.4326
	.1507	.7805	.6140
	.2920	.9558	.9186
	.4340	1.0009	1.0070
	.5050	1.0276	1.0628
	.5750	1.0250	1.0581
	.6460	1.0290	1.0651
	.7180	1.0262	1.0605
	.7890	1.0290	1.0651
	.8590	1.0456	1.1000
	.9300	1.0456	1.1000
	1.0000	1.0442	1.0977
St'bd rake	.0177	.6289	.3977
	.0443	.7486	.5628
	.0797	.8196	.6767
	.1507	.9378	.8860
	.2920	1.0346	1.0767
	.4340	1.0346	1.0767
	.5050	1.0456	1.1000
	.5750	1.0442	1.0977
	.6460	1.0442	1.0977
	.7180	1.0456	1.1000
	.7890	1.0442	1.0977
	.8590	1.0494	1.1070
	.9300	1.0469	1.1023
	1.0000	1.0469	1.1023

Station	z/h	U_l/U_∞	q_l/q_∞
Wake rake	.0000	.3585	.1282
	.0833	.6970	.4848
	.1667	.9373	.8767
	.2081	.9872	.9726
	.2500	1.0003	.9982
	.2919	1.0374	1.0736
	.3338	1.0601	1.1212
	.3750	1.0744	1.1518
	.4170	1.0596	1.1203
	.4580	.9445	.8900
	.5000	.9455	.8919
	.5420	.9453	.8915
	.5830	.9480	.8967
	.6250	.9856	.9692
	.6670	.9883	.9744
	.7080	.9856	.9692
	.7500	.9863	.9706
	.7900	.9853	.9687
	.8333	1.0190	1.0359
	.9170	1.0196	1.0374
	1.0000	1.0187	1.0354

TABLE 4 Continued

CHORDWISE PRESSURE-DISTRIBUTION, BOUNDARY-LAYER, AND WAKE CHARACTERISTICS OF THE MODEL WITH PROPELLER 1 INSTALLED WITH $\beta = 25$

(q) $n = 50.00$ rps $\frac{U_\infty}{nD} = .928$ $\alpha = -.5$

Station	x/l	C_p
Port hull	.0146	.580
	.0633	-.015
	.1120	-.129
	.1610	-.165
	.2100	-.217
	.2583	-.218
	.3075	-.217
	.3560	-.196
	.4050	-.207
	.4530	-.196
	.5020	-.176
	.5510	-.155
	.6000	-.129
	.6485	-.114
	.6970	-.103
	.7460	-.082
	.7950	-.036
	.8430	-.057
	.8920	-.020
	.9410	.062
St'bd hull	.7800	-.031
	.8195	-.082
	.8680	-.041
	.9160	.020
	.9650	.139

Station	y/h	U_l/U_∞	q_l/q_∞
Port rake	.0177	.4636	.2176
	.0443	.5838	.3420
	.0797	.6499	.4249
	.1507	.7815	.6166
	.2920	.9429	.9016
	.4340	.9986	1.0052
	.5050	1.0168	1.0466
	.5750	1.0168	1.0466
	.6460	1.0232	1.0622
	.7180	1.0168	1.0466
	.7890	1.0232	1.0570
	.8590	1.0508	1.1192
	.9300	1.0508	1.1140
	1.0000	1.0478	1.1088
St'bd rake	.0177	.6308	.3990
	.0443	.7490	.5648
	.0797	.8295	.6943
	.1507	.9463	.9067
	.2920	1.0232	1.0622
	.4340	1.0232	1.0570
	.5050	1.0446	1.1036
	.5750	1.0411	1.0984
	.6460	1.0478	1.1088
	.7180	1.0508	1.1192
	.7890	1.0411	1.0984
	.8590	1.0411	1.0984
	.9300	1.0411	1.0984
	1.0000	1.0355	1.0829

Station	z/h	U_l/U_∞	q_l/q_∞
Wake rake	.0000	.2683	.0718
	.0833	.7083	.5005
	.1667	.9585	.9167
	.2081	1.0117	1.0211
	.2500	1.0278	1.0539
	.2919	1.0637	1.1289
	.3338	1.0825	1.1690
	.3750	1.0888	1.1827
	.4170	1.0330	1.0645
	.4580	.9518	.9040
	.5000	.9536	.9071
	.5420	.9508	.9018
	.5830	.9553	.9103
	.6250	.9868	.9715
	.6670	.9885	.9747
	.7080	.9868	.9715
	.7500	.9885	.9747
	.7900	.9900	.9778
	.8333	1.0184	1.0349
	.9170	1.0184	1.0349
	1.0000	1.0195	1.0369

TABLE 4 Continued

CHORDWISE PRESSURE-DISTRIBUTION, BOUNDARY-LAYER, AND WAKE CHARACTERISTICS OF THE MODEL WITH PROPELLER 1 INSTALLED WITH β = 25°

(r) n = 55.00 rps $\frac{iV_\infty}{nD}$ = .846 α = -.5°

Station	x/l	C_p
Port hull	.0146	.625
	.0633	.020
	.1120	-.110
	.1510	-.150
	.2100	-.200
	.2583	-.197
	.3075	-.195
	.3560	-.185
	.4050	-.180
	.4530	-.175
	.5020	-.160
	.5510	-.140
	.6000	-.125
	.6485	-.110
	.6970	-.085
	.7460	-.060
	.7950	-.030
	.8430	-.060
	.8920	-.015
	.9410	.075
St'bd hull	.7800	-.040
	.8195	-.070
	.8680	-.050
	.9160	.025
	.9650	.130

Station	y/h	U_l/U_∞	q_l/q_∞
Port rake	.0177	.4813	.2300
	.0443	.5823	.3350
	.0797	.6434	.4050
	.1507	.8120	.6450
	.2920	.9731	.9300
	.4340	1.0206	1.0250
	.5050	1.0420	1.0650
	.5750	1.0601	1.1000
	.6460	1.0452	1.0700
	.7180	1.0385	1.0600
	.7890	1.0360	1.0550
	.8590	1.0571	1.0950
	.9300	1.0601	1.1050
	1.0000	1.0571	1.0950
St'bd rake	.0177	.6037	.3550
	.0443	.7264	.5200
	.0797	.7996	.6250
	.1507	.9236	.8400
	.2920	1.0482	1.0750
	.4340	1.0482	1.0750
	.5050	1.0482	1.0800
	.5750	1.0482	1.0750
	.6460	1.0482	1.0800
	.7180	1.0506	1.0850
	.7890	1.0482	1.0800
	.8590	1.0625	1.1100
	.9300	1.0571	1.0950
	1.0000	1.0536	1.0900

Station	z/h	U_l/U_∞	q_l/q_∞
Wake rake	.0000	.2921	.0851
	.0833	.7576	.5727
	.1667	1.0263	1.0508
	.2081	1.0773	1.1580
	.2500	1.0846	1.1738
	.2919	1.1210	1.2537
	.3338	1.1331	1.2810
	.3750	1.1340	1.2830
	.4170	1.0232	1.0446
	.4580	.9489	.8985
	.5000	.9496	.8996
	.5420	.9473	.8953
	.5830	.9489	.8985
	.6250	.9860	.9699
	.6670	.9864	.9709
	.7080	.9843	.9667
	.7500	.9860	.9699
	.7900	.9864	.9709
	.8333	1.0143	1.0266
	.9170	1.0133	1.0246
	1.0000	1.0170	1.0319

TABLE 4 Continued

CHORDWISE PRESSURE-DISTRIBUTION, BOUNDARY-LAYER, AND WAKE CHARACTERISTICS OF THE MODEL WITH PROPELLER 1 INSTALLED WITH $\beta = 25°$

(S) n = 60.01 rps $\frac{U_\infty}{nD}$ = .778 α = -.5°

Station	x/l	C_p
Port hull	.0146	.599
	.0633	-.026
	.1120	-.156
	.1610	-.177
	.2100	-.213
	.2583	-.215
	.3075	-.218
	.3560	-.203
	.4050	-.197
	.4530	-.192
	.5020	-.187
	.5510	-.187
	.6000	-.165
	.6485	-.140
	.6970	-.102
	.7460	-.078
	.7950	-.078
	.8430	-.083
	.8920	-.036
	.9410	.041
St'bd hull	.7800	-.052
	.8195	-.099
	.8680	-.062
	.9160	-.010
	.9650	.062

Station	y/h	U_l/U_∞	q_l/q_∞
Port rake	.0177	.4731	.2292
	.0443	.5857	.3542
	.0797	.6605	.4479
	.1507	.7895	.6406
	.2920	.9606	.9479
	.4340	1.0233	1.0781
	.5050	1.0415	1.1146
	.5750	1.0415	1.1146
	.6460	1.0324	1.0938
	.7180	1.0415	1.1146
	.7890	1.0415	1.1146
	.8590	1.0565	1.1458
	.9300	1.0565	1.1510
	1.0000	1.0565	1.1458
St'bd rake	.0177	.6111	.3854
	.0443	.7447	.5677
	.0797	.8124	.6823
	.1507	.9341	.8958
	.2920	1.0470	1.1302
	.4340	1.0565	1.1458
	.5050	1.0500	1.1354
	.5750	1.0649	1.1667
	.6460	1.0415	1.1146
	.7180	1.0619	1.1615
	.7890	1.0766	1.1927
	.8590	1.0737	1.1875
	.9300	1.0649	1.1667
	1.0000	1.0619	1.1615

Station	z/h	U_l/U_∞	q_l/q_∞
Wake rake	.0000	.3219	.1033
	.0833	.8297	.6867
	.1667	1.1067	1.2222
	.2081	1.1684	1.3620
	.2500	1.1652	1.3547
	.2919	1.1941	1.4225
	.3338	1.2011	1.4392
	.3750	1.1782	1.3849
	.4170	.9884	.9748
	.4580	.9402	.8819
	.5000	.9402	.8819
	.5420	.9385	.8788
	.5830	.9413	.8840
	.6250	.9795	.9571
	.6670	.9783	.9549
	.7080	.9783	.9549
	.7500	.9788	.9560
	.7900	.9788	.9560
	.8333	1.0125	1.0229
	.9170	1.0109	1.0196
	1.0000	1.0135	1.0249

TABLE 4 Concluded

CHORDWISE PRESSURE-DISTRIBUTION, BOUNDARY-LAYER, AND WAKE CHARACTERISTICS OF THE MODEL WITH PROPELLER 1 INSTALLED WITH $\beta = 25°$ (t) n = 64.99 rps $\frac{U_\infty}{nD} = .718$ $\alpha = -.5°$

Station	x/l	C_p
Port hull	.0146	.599
	.0633	-.026
	.1120	-.145
	.1610	-.177
	.2100	-.234
	.2583	-.229
	.3075	-.224
	.3560	-.218
	.4050	-.218
	.4530	-.197
	.5020	-.182
	.5510	-.161
	.6000	-.130
	.6485	-.125
	.6970	-.100
	.7460	-.078
	.7950	-.046
	.8430	-.083
	.8920	-.026
	.9410	.020
St'bd hull	.7800	-.052
	.8195	-.093
	.8680	-.062
	.9160	-.010
	.9650	.046

Station	y/h	U_l/U_∞	q_l/q_∞
Port rake	.0177	.5054	.2656
	.0443	.6217	.3958
	.0797	.6887	.4844
	.1507	.8129	.6823
	.2920	.9773	.9844
	.4340	1.0330	1.0990
	.5050	1.0452	1.1198
	.5750	1.0452	1.1198
	.6460	1.0452	1.1198
	.7180	1.0452	1.1250
	.7890	1.0390	1.1094
	.8590	1.0655	1.1667
	.9300	1.0625	1.1615
	1.0000	1.0595	1.1563
St'bd rake	.0177	.6325	.4115
	.0443	.7624	.5938
	.0797	.8250	.6979
	.1507	.9446	.9167
	.2920	1.0422	1.1146
	.4340	1.0452	1.1250
	.5050	1.0570	1.1458
	.5750	1.0506	1.1354
	.6460	1.0506	1.1354
	.7180	1.0475	1.1302
	.7890	1.0570	1.1510
	.8590	1.0595	1.1563
	.9300	1.0570	1.1510
	1.0000	1.0595	1.1563

Station	z/h	U_l/U_∞	q_l/q_∞
Wake rake	.0000	.3732	.1390
	.0833	.9049	.8170
	.1667	1.2061	1.4511
	.2081	1.2731	1.6172
	.2500	1.2629	1.5911
	.2919	1.2908	1.6622
	.3338	1.2782	1.6297
	.3750	1.2104	1.4616
	.4170	.9572	.9141
	.4580	.9351	.8724
	.5000	.9368	.8755
	.5420	.9345	.8713
	.5830	.9368	.8755
	.6250	.9756	.9497
	.6670	.9794	.9570
	.7080	.9746	.9475
	.7500	.9761	.9507
	.7900	.9761	.9507
	.8333	1.0088	1.0154
	.9170	1.0084	1.0144
	1.0000	1.0100	1.0176

TABLE 5

CHORDWISE PRESSURE-DISTRIBUTION, BOUNDARY-LAYER, AND WAKE CHARACTERISTICS OF THE MODEL WITH PROPELLER 2 INSTALLED WITH $\beta = 20°$

(a) $n = 67.13$ rps $\frac{U_\infty}{nD} = 1.517$ $\alpha = -.5°$

Station	x/l	C_p
Port hull	.0144	.595
	.0625	.015
	.1107	-.110
	.1587	-.139
	.2068	-.180
	.2545	-.179
	.3025	-.178
	.3510	-.173
	.3985	-.160
	.4470	-.176
	.4950	-.143
	.5430	-.137
	.5910	-.097
	.6390	-.087
	.6870	-.064
	.7350	-.039
	.7845	-.013
	.8310	-.030
	.8795	.032
	.9275	.160
St'bd hull	.7600	-.013
	.8075	-.045
	.8550	.002
	.9045	.097
	.9520	.243

Station	y/h	U_1/U_∞	q_1/q_∞
Port rake	.0177	.4260	.1761
	.0443	.5454	.2891
	.0797	.6206	.3761
	.1507	.7420	.5348
	.2920	.9263	.8348
	.4340	.9841	.9435
	.5050	1.0250	1.0239
	.5750	1.0132	1.0000
	.6460	1.0212	1.0152
	.7180	1.0184	1.0109
	.7890	1.0198	1.0130
	.8590	1.0478	1.0674
	.9300	1.0466	1.0652
	1.0000	1.0413	1.0565
St'bd rake	.0177	.6052	.3565
	.0443	.7306	.5196
	.0797	.7972	.6174
	.1507	.9190	.8217
	.2920	1.0239	1.0196
	.4340	1.0250	1.0239
	.5050	1.0371	1.0478
	.5750	1.0400	1.0522
	.6460	1.0358	1.0457
	.7180	1.0358	1.0457
	.7890	1.0358	1.0457
	.8590	1.0400	1.0522
	.9300	1.0413	1.0565
	1.0000	1.0413	1.0565

Station	z/h	U_1/U_∞	q_1/q_∞
Wake rake	.0000	.4356	.1894
	.0833	.4569	.2082
	.1667	.6044	.3644
	.2081	.6782	.4589
	.2500	.7546	.5681
	.2919	.8102	.6548
	.3338	.8574	.7336
	.3750	.9064	.8197
	.4170	.9412	.8838
	.4580	.9644	.9280
	.5000	.9723	.9432
	.5420	.9716	.9418
	.5830	.9718	.9423
	.6250	1.0018	1.0013
	.6670	1.0013	1.0004
	.7080	1.0003	.9985
	.7500	1.0010	.9999
	.7900	1.0006	.9990
	.8333	1.0212	1.0405
	.9170	1.0196	1.0373
	1.0000	1.0216	1.0414

TABLE 5 Continued

CHORDWISE PRESSURE-DISTRIBUTION, BOUNDARY-LAYER, AND WAKE CHARACTERISTICS OF THE MODEL WITH PROPELLER 2 INSTALLED WITH $\beta = 20°$

(b) n = 46.52 rps $\frac{U_\infty}{nD} = 1.464$ $\alpha = -.5°$

Station	x/l	C_p
Port hull	.0144	.631
	.0625	.000
	.1107	-.146
	.1587	-.156
	.2068	-.207
	.2545	-.209
	.3025	-.212
	.3510	-.191
	.3985	-.176
	.4470	-.191
	.4950	-.171
	.5430	-.166
	.5910	-.126
	.6390	-.116
	.6870	-.095
	.7350	-.075
	.7845	-.050
	.8310	-.060
	.8795	.030
	.9275	.151
St'bd hull	.7600	-.030
	.8075	-.070
	.8550	-.020
	.9045	.090
	.9520	.232

Station	y/h	U_l/U_∞	q_l/q_∞
Port rake	.0177	.4152	.1717
	.0443	.5260	.2828
	.0797	.6172	.3838
	.1507	.7437	.5606
	.2920	.9311	.8788
	.4340	.9861	.9848
	.5050	1.0103	1.0354
	.5750	1.0103	1.0354
	.6460	1.0164	1.0455
	.7180	1.0042	1.0202
	.7890	1.0129	1.0404
	.8590	1.0548	1.1263
	.9300	1.0577	1.1313
	1.0000	1.0493	1.1111
St'bd rake	.0177	.6172	.3838
	.0443	.7227	.5303
	.0797	.8000	.6465
	.1507	.9244	.8636
	.2920	1.0225	1.0556
	.4340	1.0280	1.0707
	.5050	1.0400	1.0960
	.5750	1.0400	1.0960
	.6460	1.0400	1.0960
	.7180	1.0400	1.0960
	.7890	1.0400	1.0960
	.8590	1.0430	1.1010
	.9300	1.0464	1.1061
	1.0000	1.0430	1.1010

Station	z/h	U_l/U_∞	q_l/q_∞
Wake rake	.0000	.3922	.1534
	.0833	.4599	.2111
	.1667	.6010	.3603
	.2081	.6800	.4613
	.2500	.7535	.5663
	.2919	.8057	.6477
	.3338	.8572	.7332
	.3750	.9013	.8103
	.4170	.9464	.8938
	.4580	.9665	.9319
	.5000	.9638	.9268
	.5420	.9728	.9443
	.5830	.9697	.9380
	.6250	.9928	.9834
	.6670	.9839	.9659
	.7080	.9882	.9741
	.7500	.9877	.9731
	.7900	.9901	.9783
	.8333	1.0154	1.0287
	.9170	1.0123	1.0224
	1.0000	1.0113	1.0204

TABLE 5 Continued

CHORDWISE PRESSURE-DISTRIBUTION, BOUNDARY-LAYER, AND WAKE CHARACTERISTICS OF THE MODEL WITH PROPELLER 2 INSTALLED WITH $\beta = 20°$

(C) $n = 76.11$ rps $\frac{U_\infty}{nD} = 1.340$ $\alpha = -.5°$

Station	x/l	C_p
Port hull	.0144	.607
	.0625	.008
	.1107	-.110
	.1587	-.148
	.2068	-.172
	.2545	-.174
	.3025	-.175
	.3510	-.166
	.3985	-.159
	.4470	-.166
	.4950	-.141
	.5430	-.133
	.5910	-.111
	.6390	-.086
	.6870	-.059
	.7350	-.028
	.7845	-.008
	.8310	-.026
	.8795	.039
	.9275	.166
St'bd hull	.7600	-.011
	.8075	-.046
	.8550	.006
	.9045	.102
	.9520	.250

Station	y/h	U_l/U_∞	q_l/q_∞
Port rake	.0177	.4178	.1707
	.0443	.5308	.2794
	.0797	.6040	.3614
	.1507	.7268	.5211
	.2920	.9139	.8248
	.4340	.9853	.9579
	.5050	1.0251	1.0377
	.5750	1.0183	1.0244
	.6460	1.0224	1.0333
	.7180	1.0224	1.0333
	.7890	1.0211	1.0310
	.8590	1.0493	1.0865
	.9300	1.0465	1.0820
	1.0000	1.0411	1.0710
St'bd rake	.0177	.6090	.3659
	.0443	.7306	.5277
	.0797	.8010	.6341
	.1507	.9244	.8448
	.2920	1.5468	2.4061
	.4340	1.5485	2.4112
	.5050	1.5606	2.4518
	.5750	1.5606	2.4518
	.6460	1.5566	2.4365
	.7180	1.5629	2.4569
	.7890	1.5606	2.4518
	.8590	1.5667	2.4721
	.9300	1.5650	2.4619
	1.0000	1.5705	2.4822

Station	z/h	U_l/U_∞	q_l/q_∞
Wake rake	.0000	.4211	.1769
	.0833	.4841	.2339
	.1667	.6275	.3928
	.2081	.7065	.4979
	.2500	.7783	.6045
	.2919	.8221	.6743
	.3338	.8621	.7415
	.3750	.9128	.8314
	.4170	.9462	.8934
	.4580	.9652	.9296
	.5000	.9743	.9472
	.5420	.9709	.9407
	.5830	.9638	.9268
	.6250	.9901	.9783
	.6670	.9868	.9717
	.7080	.9885	.9749
	.7500	.9922	.9823
	.7900	.9950	.9879
	.8333	1.0163	1.0305
	.9170	1.0055	1.0088
	1.0000	1.0199	1.0379

TABLE 5 Continued

CHORDWISE PRESSURE-DISTRIBUTION, BOUNDARY-LAYER, AND WAKE CHARACTERISTICS OF THE MODEL WITH PROPELLER 2 INSTALLED WITH $\beta = 20°$

(d) $n = 86.21$ rps $\frac{U_\infty}{nD} = 1.180$ $\alpha = -.5°$

Station	x/l	C_p
Port hull	.0144	.624
	.0625	.033
	.1107	-.098
	.1587	-.140
	.2068	-.172
	.2545	-.154
	.3025	-.172
	.3510	-.163
	.3985	-.158
	.4470	-.167
	.4950	-.140
	.5430	-.132
	.5910	-.110
	.6390	-.094
	.6870	-.060
	.7350	-.031
	.7845	-.006
	.8310	-.026
	.8795	.033
	.9275	.163
St'bd hull	.7600	-.011
	.8075	-.047
	.8550	.006
	.9045	.100
	.9520	.241

Station	y/h	U_l/U_∞	q_l/q_∞
Port rake	.0177	.4278	.1812
	.0443	.5399	.2886
	.0797	.6232	.3870
	.1507	.7465	.5548
	.2920	.9318	.8635
	.4340	.9839	.9620
	.5050	1.0173	1.0268
	.5750	1.0130	1.0201
	.6460	1.0158	1.0246
	.7180	1.0158	1.0246
	.7890	1.0144	1.0224
	.8590	1.0456	1.0850
	.9300	1.0442	1.0828
	1.0000	1.0376	1.0694
St'bd rake	.0177	.6076	.3669
	.0443	.7337	.5347
	.0797	.8004	.6353
	.1507	.9182	.8367
	.2920	1.0253	1.0447
	.4340	1.0226	1.0380
	.5050	1.0307	1.0559
	.5750	1.0321	1.0582
	.6460	1.0307	1.0559
	.7180	1.0321	1.0582
	.7890	1.0267	1.0470
	.8590	1.0360	1.0671
	.9300	1.0346	1.0649
	1.0000	1.0346	1.0626

Station	z/h	U_l/U_∞	q_l/q_∞
Wake rake	.0000	.4343	.1881
	.0833	.5219	.2718
	.1667	.6650	.4413
	.2081	.7437	.5519
	.2500	.8145	.6620
	.2919	.8349	.6954
	.3338	.8677	.7512
	.3750	.9155	.8362
	.4170	.9475	.8957
	.4580	.9650	.9291
	.5000	.9710	.9407
	.5420	.9718	.9421
	.5830	.9678	.9347
	.6250	.9985	.9946
	.6670	.9975	.9928
	.7080	.9973	.9923
	.7500	.9992	.9960
	.7900	.9985	.9946
	.8333	1.0223	1.0430
	.9170	1.0185	1.0350
	1.0000	1.0223	1.0430

TABLE 5 Continued

CHORDWISE PRESSURE-DISTRIBUTION, BOUNDARY-LAYER, AND WAKE CHARACTERISTICS OF THE MODEL WITH PROPELLER 2 INSTALLED WITH $\beta = 20°$

(e) $n = 58.78$ rps $\frac{U_\infty}{nD} = 1.156$ $\alpha = -.5°$

Station	x/l	C_p
Port hull	.0144	.606
	.0625	.010
	.1107	-.136
	.1587	-.166
	.2068	-.205
	.2545	-.210
	.3025	-.202
	.3510	-.181
	.3985	-.181
	.4470	-.176
	.4950	-.171
	.5430	-.156
	.5910	-.131
	.6390	-.106
	.6870	-.080
	.7350	-.055
	.7845	-.030
	.8310	-.055
	.8795	.010
	.9275	.141
St'bd hull	.7600	-.030
	.8075	-.065
	.8550	-.010
	.9045	.090
	.9520	.232

Station	y/h	U_l/U_∞	q_l/q_∞
Port rake	.0177	.4159	.1717
	.0443	.5270	.2828
	.0797	.6083	.3737
	.1507	.7536	.5707
	.2920	.9329	.8788
	.4340	.9880	.9848
	.5050	1.0245	1.0606
	.5750	1.0214	1.0505
	.6460	1.0245	1.0556
	.7180	1.0245	1.0556
	.7890	1.0245	1.0556
	.8590	1.0514	1.1162
	.9300	1.0485	1.1061
	1.0000	1.0451	1.1010
St'bd rake	.0177	.6039	.3687
	.0443	.7240	.5303
	.0797	.8085	.6566
	.1507	.9396	.8889
	.2920	1.0365	1.0808
	.4340	1.0365	1.0808
	.5050	1.0396	1.0859
	.5750	1.0420	1.0960
	.6460	1.0335	1.0758
	.7180	1.0420	1.0960
	.7890	1.0396	1.0909
	.8590	1.0514	1.1111
	.9300	1.0514	1.1111
	1.0000	1.0485	1.1061

Station	z/h	U_l/U_∞	q_l/q_∞
Wake rake	.0000	.4147	.1716
	.0833	.5170	.2667
	.1667	.6510	.4228
	.2081	.7291	.5303
	.2500	.8034	.6439
	.2919	.8256	.6802
	.3338	.8667	.7494
	.3750	.9189	.8425
	.4170	.9640	.9272
	.4580	.9747	.9478
	.5000	.9684	.9355
	.5420	.9769	.9528
	.5830	.9710	.9406
	.6250	.9900	.9778
	.6670	.9853	.9686
	.7080	.9868	.9716
	.7500	.9827	.9634
	.7900	.9874	.9727
	.8333	1.0077	1.0130
	.9170	1.0103	1.0181
	1.0000	1.0107	1.0192

TABLE 5 Continued

CHORDWISE PRESSURE-DISTRIBUTION, BOUNDARY-LAYER, AND WAKE CHARACTERISTICS OF THE MODEL WITH PROPELLER 2 INSTALLED WITH $\beta = 20°$

(f) n = 95.71 rps $\frac{U_\infty}{nD} = 1.060$ $\alpha = -.5°$

Station	x/l	C_p
Port hull	.0144	.599
	.0625	.002
	.1107	-.117
	.1587	-.150
	.2068	-.189
	.2545	-.189
	.3025	-.189
	.3510	-.175
	.3985	-.168
	.4470	-.175
	.4950	-.146
	.5430	-.137
	.5910	-.115
	.6390	-.096
	.6870	-.068
	.7350	-.042
	.7845	-.018
	.8310	-.036
	.8795	.029
	.9275	.144
St'bd hull	.7600	-.022
	.8075	-.056
	.8550	-.006
	.9045	.081
	.9520	.227

Station	y/h	U_l/U_∞	q_l/q_∞
Port rake	.0177	.4232	.1779
	.0443	.5364	.2860
	.0797	.6096	.3694
	.1507	.7341	.5360
	.2920	.9200	.8401
	.4340	.9787	.9505
	.5050	1.0178	1.0293
	.5750	1.0123	1.0180
	.6460	1.0178	1.0293
	.7180	1.0208	1.0360
	.7890	1.0153	1.0225
	.8590	1.0410	1.0766
	.9300	1.0424	1.0788
	1.0000	1.0380	1.0698
St'bd rake	.0177	.5953	.3536
	.0443	.7245	.5225
	.0797	.7892	.6194
	.1507	.9077	.8198
	.2920	1.0219	1.0383
	.4340	1.0219	1.0383
	.5050	1.0301	1.0541
	.5750	1.0301	1.0541
	.6460	1.0288	1.0518
	.7180	1.0315	1.0563
	.7890	1.0315	1.0563
	.8590	1.0369	1.0676
	.9300	1.0380	1.0698
	1.0000	1.0380	1.0698

Station	z/h	U_l/U_∞	q_l/q_∞
Wake rake	.0000	.4495	.2016
	.0833	.5633	.3166
	.1667	.7046	.4951
	.2081	.7874	.6187
	.2500	.8592	.7365
	.2919	.8515	.7234
	.3338	.8730	.7603
	.3750	.9200	.8445
	.4170	.9531	.9062
	.4580	.9692	.9371
	.5000	.9750	.9483
	.5420	.9737	.9459
	.5830	.9747	.9478
	.6250	1.0017	1.0011
	.6670	1.0035	1.0049
	.7080	1.0035	1.0049
	.7500	1.0022	1.0020
	.7900	1.0035	1.0049
	.8333	1.0272	1.0525
	.9170	1.0262	1.0507
	1.0000	1.0260	1.0502

TABLE 5 Continued

CHORDWISE PRESSURE-DISTRIBUTION, BOUNDARY-LAYER, AND WAKE CHARACTERISTICS OF THE MODEL WITH PROPELLER 2 INSTALLED WITH $\beta = 20°$

(g) $n = 105.21$ rps $\frac{U_\infty}{nD} = .965$ $\alpha = -.5°$

Station	x/l	C_p
Port hull	.0144	.624
	.0625	.029
	.1107	-.106
	.1587	-.138
	.2068	-.181
	.2545	-.179
	.3025	-.178
	.3510	-.169
	.3985	-.167
	.4470	-.169
	.4950	-.144
	.5430	-.140
	.5910	-.099
	.6390	-.090
	.6870	-.068
	.7350	-.038
	.7845	-.009
	.8310	-.038
	.8795	.029
	.9275	.156
St'bd hull	.7600	-.009
	.8075	-.047
	.8550	.002
	.9045	.092
	.9520	.235

Station	y/h	U_l/U_∞	q_l/q_∞
Port rake	.0177	.4322	.1878
	.0443	.5538	.3054
	.0797	.6338	.4027
	.1507	.7579	.5747
	.2920	.9388	.8801
	.4340	.9855	.9706
	.5050	1.0173	1.0339
	.5750	1.0118	1.0226
	.6460	1.0204	1.0385
	.7180	1.0159	1.0317
	.7890	1.0159	1.0317
	.8590	1.0418	1.0837
	.9300	1.0389	1.0792
	1.0000	1.0351	1.0701
St'bd rake	.0177	.6117	.3733
	.0443	.7338	.5385
	.0797	.8065	.6493
	.1507	.9270	.8575
	.2920	1.0227	1.0452
	.4340	1.0255	1.0498
	.5050	1.0376	1.0747
	.5750	1.0364	1.0724
	.6460	1.0337	1.0679
	.7180	1.0337	1.0679
	.7890	1.0309	1.0633
	.8590	1.0389	1.0792
	.9300	1.0405	1.0814
	1.0000	1.0405	1.0814

Station	z/h	U_l/U_∞	q_l/q_∞
Wake rake	.0000	.4606	.2117
	.0833	.5934	.3513
	.1667	.7351	.5391
	.2081	.8186	.6685
	.2500	.8949	.7989
	.2919	.8659	.7480
	.3338	.8806	.7737
	.3750	.9265	.8563
	.4170	.9514	.9031
	.4580	.9673	.9334
	.5000	.9688	.9362
	.5420	.9677	.9344
	.5830	.9697	.9382
	.6250	.9975	.9928
	.6670	.9982	.9942
	.7080	.9975	.9928
	.7500	.9975	.9928
	.7900	.9975	.9928
	.8333	1.0219	1.0418
	.9170	1.0231	1.0441
	1.0000	1.0219	1.0418

TABLE 5 Continued

CHORDWISE PRESSURE-DISTRIBUTION, BOUNDARY-LAYER, AND WAKE CHARACTERISTICS OF THE MODEL WITH PROPELLER 2 INSTALLED WITH $\beta = 20°$

(h) n = 71.16 rps $\frac{U_\infty}{nD} = .956$ $\alpha = -.5°$

Station	x/l	C_p
Port hull	.0144	.593
	.0625	-.015
	.1107	-.137
	.1587	-.177
	.2068	-.218
	.2545	-.210
	.3025	-.203
	.3510	-.187
	.3985	-.177
	.4470	-.170
	.4950	-.162
	.5430	-.147
	.5910	-.111
	.6390	-.101
	.6870	-.069
	.7350	-.045
	.7845	-.025
	.8310	-.050
	.8795	.015
	.9275	.142
St'bd hull	.7600	-.020
	.8075	-.066
	.8550	-.015
	.9045	.081
	.9520	.233

Station	y/h	U_l/U_∞	q_l/q_∞
Port rake	.0177	.4155	.1777
	.0443	.5265	.2843
	.0797	.6126	.3807
	.1507	.7445	.5635
	.2920	.9287	.8731
	.4340	.9958	1.0051
	.5050	1.0205	1.0558
	.5750	1.0174	1.0508
	.6460	1.0138	1.0457
	.7180	1.0174	1.0508
	.7890	1.0205	1.0558
	.8590	1.0504	1.1168
	.9300	1.0474	1.1117
	1.0000	1.0385	1.0964
St'bd rake	.0177	.5823	.3452
	.0443	.7104	.5127
	.0797	.7884	.6345
	.1507	.9186	.8579
	.2920	1.0290	1.0761
	.4340	1.0355	1.0863
	.5050	1.0410	1.1015
	.5750	1.0355	1.0863
	.6460	1.0440	1.1066
	.7180	1.0385	1.0964
	.7890	1.0385	1.0964
	.8590	1.0440	1.1066
	.9300	1.0410	1.1015
	1.0000	1.0385	1.0964

Station	z/h	U_l/U_∞	q_l/q_∞
Wake rake	.0000	.3991	.1589
	.0833	.5708	.3250
	.1667	.7104	.5034
	.2081	.7955	.6313
	.2500	.8593	.7366
	.2919	.8249	.6789
	.3338	.8629	.7428
	.3750	.9113	.8284
	.4170	.9474	.8955
	.4580	.9594	.9182
	.5000	.9551	.9099
	.5420	.9588	.9172
	.5830	.9610	.9213
	.6250	.9764	.9512
	.6670	.9701	.9388
	.7080	.9701	.9388
	.7500	.9631	.9254
	.7900	.9690	.9368
	.8333	.9953	.9884
	.9170	.9922	.9821
	1.0000	.9917	.9812

TABLE 5 Continued

CHORDWISE PRESSURE-DISTRIBUTION, BOUNDARY-LAYER, AND WAKE CHARACTERISTICS OF THE MODEL WITH PROPELLER 2 INSTALLED WITH $\beta = 20°$

(i) $n = 114.74$ rps $\frac{U_\infty}{nD} = .884$ $\alpha = -.5°$

Station	x/l	C_p
Port hull	.0144	.621
	.0625	.031
	.1107	-.102
	.1587	-.140
	.2068	-.180
	.2545	-.181
	.3025	-.182
	.3510	-.175
	.3985	-.167
	.4470	-.171
	.4950	-.147
	.5430	-.138
	.5910	-.093
	.6390	-.091
	.6870	-.068
	.7350	-.044
	.7845	-.006
	.8310	-.031
	.8795	.031
	.9275	.147
St'bd hull	.7600	-.008
	.8075	-.044
	.8550	.000
	.9045	.091
	.9520	.222

Station	y/h	U_1/U_∞	q_1/q_∞
Port rake	.0177	.4389	.1893
	.0443	.5566	.3051
	.0797	.6364	.3987
	.1507	.7602	.5679
	.2920	.9467	.8820
	.4340	.9942	.9710
	.5050	1.0326	1.0490
	.5750	1.0288	1.0401
	.6460	1.0326	1.0490
	.7180	1.0315	1.0445
	.7890	1.0326	1.0490
	.8590	1.0581	1.1002
	.9300	1.0554	1.0958
	1.0000	1.0527	1.0891
St'bd rake	.0177	.6096	.3653
	.0443	.7284	.5212
	.0797	.8031	.6347
	.1507	.9243	.8396
	.2920	1.0288	1.0401
	.4340	1.0315	1.0445
	.5050	1.0447	1.0735
	.5750	1.0435	1.0690
	.6460	1.0424	1.0668
	.7180	1.0435	1.0690
	.7890	1.0435	1.0690
	.8590	1.0447	1.0735
	.9300	1.0478	1.0780
	1.0000	1.0478	1.0780

Station	z/h	U_1/U_∞	q_1/q_∞
Wake rake	.0000	.4728	.2231
	.0833	.6348	.4022
	.1667	.7839	.6130
	.2081	.8692	.7538
	.2500	.9452	.8913
	.2919	.8828	.7777
	.3338	.8886	.7879
	.3750	.9311	.8651
	.4170	.9526	.9053
	.4580	.9672	.9333
	.5000	.9708	.9403
	.5420	.9689	.9365
	.5830	.9697	.9380
	.6250	1.0022	1.0020
	.6670	.9982	.9941
	.7080	.9973	.9922
	.7500	1.0013	1.0002
	.7900	1.0003	.9984
	.8333	1.0223	1.0428
	.9170	1.0227	1.0437
	1.0000	1.0229	1.0441

TABLE 5 Continued

CHORDWISE PRESSURE-DISTRIBUTION, BOUNDARY-LAYER, AND WAKE CHARACTERISTICS OF THE MODEL WITH PROPELLER 2 INSTALLED WITH $\beta = 20°$

(J) n = 83.51 rps $\frac{U_\infty}{nD}$ = .815 α = -.5°

Station	x/l	C_p
Port hull	.0144	.618
	.0625	.000
	.1107	-.118
	.1587	-.153
	.2068	-.198
	.2545	-.193
	.3025	-.188
	.3510	-.178
	.3985	-.158
	.4470	-.160
	.4950	-.153
	.5430	-.133
	.5910	-.119
	.6390	-.104
	.6870	-.080
	.7350	-.049
	.7845	-.019
	.8310	-.044
	.8795	.029
	.9275	.143
St'bd hull	.7600	-.014
	.8075	-.049
	.8550	-.009
	.9045	.089
	.9520	.212

Station	y/h	U_l/U_∞	q_l/q_∞
Port rake	.0177	.4152	.1733
	.0443	.5433	.2921
	.0797	.6230	.3812
	.1507	.7569	.5644
	.2920	.9409	.8812
	.4340	.9979	.9901
	.5050	1.0376	1.0693
	.5750	1.0346	1.0594
	.6460	1.0346	1.0594
	.7180	1.0346	1.0594
	.7890	1.0316	1.0545
	.8590	1.0519	1.0990
	.9300	1.0519	1.0990
	1.0000	1.0464	1.0842
St'bd rake	.0177	.5976	.3564
	.0443	.7270	.5248
	.0797	.8038	.6386
	.1507	.9311	.8614
	.2920	1.0400	1.0743
	.4340	1.0400	1.0743
	.5050	1.0376	1.0693
	.5750	1.0430	1.0792
	.6460	1.0400	1.0743
	.7180	1.0376	1.0693
	.7890	1.0400	1.0743
	.8590	1.0464	1.0842
	.9300	1.0493	1.0891
	1.0000	1.0493	1.0891

Station	z/h	U_l/U_∞	q_l/q_∞
Wake rake	.0000	.4393	.1925
	.0833	.6823	.4644
	.1667	.8253	.6796
	.2081	.9121	.8299
	.2500	.9697	.9380
	.2919	.8500	.7208
	.3338	.8840	.7795
	.3750	.9233	.8505
	.4170	.9606	.9205
	.4580	.9728	.9443
	.5000	.9562	.9124
	.5420	.9707	.9401
	.5830	.9653	.9298
	.6250	.9913	.9803
	.6670	.9861	.9700
	.7080	.9834	.9648
	.7500	.9839	.9659
	.7900	.9870	.9720
	.8333	1.0103	1.0183
	.9170	1.0113	1.0204
	1.0000	1.0103	1.0183

TABLE 5 Continued

CHORDWISE PRESSURE-DISTRIBUTION, BOUNDARY-LAYER, AND WAKE CHARACTERISTICS OF THE MODEL WITH PROPELLER 2 INSTALLED WITH $\beta = 20°$

(k) $n = 124.19$ rps $\frac{U_\infty}{nD} = .814$ $\alpha = -.5°$

Station	x/l	C_p
Port hull	.0144	.593
	.0625	.002
	.1107	-.122
	.1587	-.150
	.2068	-.186
	.2545	-.185
	.3025	-.184
	.3510	-.172
	.3985	-.172
	.4470	-.177
	.4950	-.150
	.5430	-.138
	.5910	-.106
	.6390	-.097
	.6870	-.068
	.7350	-.043
	.7845	-.025
	.8310	-.036
	.8795	.022
	.9275	.136
St'bd hull	.7600	-.018
	.8075	-.059
	.8550	-.006
	.9045	.079
	.9520	.215

Station	y/h	U_1/U_∞	q_1/q_∞
Port rake	.0177	.4339	.1864
	.0443	.5513	.3023
	.0797	.6274	.3909
	.1507	.7462	.5545
	.2920	.9183	.8409
	.4340	.9805	.9568
	.5050	1.0213	1.0386
	.5750	1.0143	1.0250
	.6460	1.0173	1.0295
	.7180	1.0187	1.0318
	.7890	1.0187	1.0341
	.8590	1.0430	1.0841
	.9300	1.0470	1.0909
	1.0000	1.0405	1.0773
St'bd rake	.0177	.6141	.3750
	.0443	.7367	.5409
	.0797	.8026	.6409
	.1507	.9276	.8568
	.2920	1.0243	1.0432
	.4340	1.0243	1.0455
	.5050	1.0362	1.0705
	.5750	1.0362	1.0705
	.6460	1.0362	1.0705
	.7180	1.0350	1.0682
	.7890	1.0362	1.0705
	.8590	1.0378	1.0727
	.9300	1.0416	1.0795
	1.0000	1.0416	1.0818

Station	z/h	U_1/U_∞	q_1/q_∞
Wake rake	.0000	.4920	.2416
	.0833	.6786	.4596
	.1667	.8306	.6884
	.2081	.9214	.8471
	.2500	1.0021	1.0020
	.2919	.8947	.7986
	.3338	.8978	.8042
	.3750	.9385	.8786
	.4170	.9511	.9027
	.4580	.9611	.9215
	.5000	.9630	.9253
	.5420	.9638	.9267
	.5830	.9640	.9272
	.6250	.9955	.9888
	.6670	.9961	.9898
	.7080	.9943	.9865
	.7500	.9961	.9898
	.7900	.9969	.9917
	.8333	1.0200	1.0382
	.9170	1.0206	1.0392
	1.0000	1.0217	1.0416

TABLE 5 Continued

CHORDWISE PRESSURE-DISTRIBUTION, BOUNDARY-LAYER, AND WAKE CHARACTERISTICS OF THE MODEL WITH PROPELLER 2 INSTALLED WITH $\beta = 20$

(1) n = 133.33 rps $\frac{U_\infty}{nD} = .757$ $\alpha = -.5$

Station	x/l	C_p
Port hull	.0144	.610
	.0625	.018
	.1107	-.109
	.1587	-.143
	.2068	-.170
	.2545	-.174
	.3025	-.175
	.3510	-.173
	.3985	-.168
	.4470	-.177
	.4950	-.143
	.5430	-.143
	.5910	-.120
	.6390	-.095
	.6870	-.072
	.7350	-.047
	.7845	-.022
	.8310	-.045
	.8795	.020
	.9275	.136
St'bd hull	.7600	-.027
	.8075	-.070
	.8550	-.004
	.9045	.075
	.9520	.214

Station	y/h	U_l/U_∞	q_l/q_∞
Port rake	.0177	.4502	.2027
	.0443	.5522	.3030
	.0797	.6397	.4077
	.1507	.7547	.5672
	.2920	.9337	.8679
	.4340	.9853	.9658
	.5050	1.0205	1.0364
	.5750	1.0191	1.0319
	.6460	1.0244	1.0433
	.7180	1.0231	1.0410
	.7890	1.0216	1.0387
	.8590	1.0478	1.0911
	.9300	1.0464	1.0888
	1.0000	1.0434	1.0820
St'bd rake	.0177	.6035	.3622
	.0443	.7243	.5216
	.0797	.7933	.6264
	.1507	.9124	.8269
	.2920	1.0261	1.0478
	.4340	1.0314	1.0569
	.5050	1.0380	1.0729
	.5750	1.0380	1.0729
	.6460	1.0354	1.0661
	.7180	1.0368	1.0706
	.7890	1.0368	1.0706
	.8590	1.0434	1.0843
	.9300	1.0464	1.0888
	1.0000	1.0434	1.0843

Station	z/h	U_l/U_∞	q_l/q_∞
Wake rake	.0000	.5113	.2608
	.0833	.7279	.5288
	.1667	.8863	.7839
	.2081	.9761	.9507
	.2500	1.0605	1.1223
	.2919	.9101	.8265
	.3338	.9039	.8151
	.3750	.9423	.8860
	.4170	.9511	.9026
	.4580	.9627	.9247
	.5000	.9615	.9224
	.5420	.9637	.9267
	.5830	.9673	.9337
	.6250	1.0005	.9989
	.6670	1.0022	1.0022
	.7080	.9994	.9965
	.7500	1.0010	.9999
	.7900	.9985	.9947
	.8333	1.0233	1.0448
	.9170	1.0265	1.0514
	1.0000	1.0240	1.0462

TABLE 5 Continued

CHORDWISE PRESSURE-DISTRIBUTION, BOUNDARY-LAYER, AND WAKE CHARACTERISTICS OF THE MODEL WITH PROPELLER 2 INSTALLED WITH $\beta = 20°$

(m) $n = 95.82$ rps $\frac{U_\infty}{nD} = .713$ $\alpha = -.5°$

Station	x/l	C_p
Port hull	.0144	.630
	.0625	.005
	.1107	-.120
	.1587	-.170
	.2068	-.215
	.2545	-.212
	.3025	-.210
	.3510	-.190
	.3985	-.175
	.4470	-.165
	.4950	-.155
	.5430	-.145
	.5910	-.110
	.6390	-.100
	.6870	-.080
	.7350	-.055
	.7845	-.020
	.8310	-.050
	.8795	.025
	.9275	.130
St'bd hull	.7600	-.025
	.8075	-.070
	.8550	-.010
	.9045	.085
	.9520	.205

Station	y/h	U_l/U_∞	q_l/q_∞
Port rake	.0177	.4496	.2050
	.0443	.5631	.3200
	.0797	.6399	.4100
	.1507	.7695	.6000
	.2920	.9448	.9000
	.4340	.9950	1.0000
	.5050	1.0346	1.0750
	.5750	1.0316	1.0700
	.6460	1.0316	1.0700
	.7180	1.0225	1.0550
	.7890	1.0250	1.0600
	.8590	1.0546	1.1200
	.9300	1.0580	1.1250
	1.0000	1.0463	1.1050
St'bd rake	.0177	.5959	.3550
	.0443	.7169	.5200
	.0797	.7695	.6000
	.1507	.9189	.8500
	.2920	1.0346	1.0750
	.4340	1.0400	1.0900
	.5050	1.0463	1.1050
	.5750	1.0463	1.1000
	.6460	1.0434	1.0950
	.7180	1.0434	1.0950
	.7890	1.0434	1.0950
	.8590	1.0463	1.1000
	.9300	1.0434	1.0950
	1.0000	1.0463	1.1050

Station	z/h	U_l/U_∞	q_l/q_∞
Wake rake	.0000	.4675	.2181
	.0833	.7423	.5498
	.1667	.8975	.8037
	.2081	.9915	.9808
	.2500	1.0518	1.1037
	.2919	.8596	.7371
	.3338	.8860	.7832
	.3750	.9262	.8559
	.4170	.9540	.9082
	.4580	.9625	.9245
	.5000	.9610	.9214
	.5420	.9637	.9265
	.5830	.9578	.9153
	.6250	.9827	.9634
	.6670	.9780	.9542
	.7080	.9832	.9644
	.7500	.9842	.9664
	.7900	.9827	.9634
	.8333	1.0023	1.0023
	.9170	1.0018	1.0013
	1.0000	1.0028	1.0033

TABLE 5 Continued

CHORDWISE PRESSURE-DISTRIBUTION, BOUNDARY-LAYER, AND WAKE CHARACTERISTICS OF THE MODEL WITH PROPELLER 2 INSTALLED WITH $\beta = 20°$

(n) n = 108.11 rps $\frac{U_\infty}{nD}$ = .628 α = -.5°

Station	x/l	C_p
Port hull	.0144	.626
	.0625	.010
	.1107	-.116
	.1587	-.166
	.2068	-.191
	.2545	-.192
	.3025	-.191
	.3510	-.176
	.3985	-.171
	.4470	-.167
	.4950	-.161
	.5430	-.131
	.5910	-.111
	.6390	-.101
	.6870	-.076
	.7350	-.050
	.7845	-.035
	.8310	-.040
	.8795	.010
	.9275	.131
St'bd hull	.7600	-.025
	.8075	-.070
	.8550	-.020
	.9045	.070
	.9520	.191

Station	y/h	U_l/U_∞	q_l/q_∞
Port rake	.0177	.4522	.2071
	.0443	.5664	.3232
	.0797	.6437	.4192
	.1507	.7739	.6061
	.2920	.9437	.8990
	.4340	1.0008	1.0051
	.5050	1.0376	1.0808
	.5750	1.0255	1.0556
	.6460	1.0346	1.0758
	.7180	1.0286	1.0657
	.7890	1.0346	1.0758
	.8590	1.0578	1.1263
	.9300	1.0524	1.1162
	1.0000	1.0524	1.1111
St'bd rake	.0177	.5932	.3535
	.0443	.7247	.5303
	.0797	.7899	.6313
	.1507	.9271	.8636
	.2920	1.0406	1.0909
	.4340	1.0376	1.0808
	.5050	1.0460	1.1010
	.5750	1.0430	1.0960
	.6460	1.0406	1.0909
	.7180	1.0406	1.0909
	.7890	1.0406	1.0909
	.8590	1.0406	1.0909
	.9300	1.0430	1.0960
	1.0000	1.0460	1.1010

Station	z/h	U_l/U_∞	q_l/q_∞
Wake rake	.0000	.5054	.2548
	.0833	.8277	.6835
	.1667	1.0168	1.0315
	.2081	1.1198	1.2511
	.2500	1.1821	1.3940
	.2919	.8688	.7529
	.3338	.9062	.8192
	.3750	.9361	.8741
	.4170	.9541	.9083
	.4580	.9607	.9207
	.5000	.9558	.9114
	.5420	.9628	.9248
	.5830	.9585	.9165
	.6250	.9853	.9684
	.6670	.9778	.9538
	.7080	.9853	.9684
	.7500	.9795	.9570
	.7900	.9841	.9662
	.8333	1.0050	1.0077
	.9170	1.0081	1.0139
	1.0000	1.0065	1.0108

TABLE 5 Continued

CHORDWISE PRESSURE-DISTRIBUTION, BOUNDARY-LAYER, AND WAKE CHARACTERISTICS OF THE MODEL WITH PROPELLER 2 INSTALLED WITH $\beta = 20°$

(o) $n = 120.51$ rps $\frac{U_\infty}{nD} = .564$ $\alpha = -.5°$

Station	x/l	C_p
Port hull	.0144	.604
	.0625	-.009
	.1107	-.138
	.1587	-.158
	.2068	-.203
	.2545	-.200
	.3025	-.198
	.3510	-.198
	.3985	-.178
	.4470	-.188
	.4950	-.163
	.5430	-.138
	.5910	-.104
	.6390	-.098
	.6870	-.081
	.7350	-.054
	.7845	-.039
	.8310	-.054
	.8795	.019
	.9275	.118
St'bd hull	.7600	-.029
	.8075	-.084
	.8550	-.019
	.9045	.064
	.9520	.183

Station	y/h	U_l/U_∞	q_l/q_∞
Port rake	.0177	.4437	.1931
	.0443	.5611	.3119
	.0797	.6381	.4010
	.1507	.7732	.5891
	.2920	.9494	.8911
	.4340	1.0035	.9950
	.5050	1.0420	1.0743
	.5750	1.0275	1.0446
	.6460	1.0365	1.0594
	.7180	1.0275	1.0446
	.7890	1.0335	1.0545
	.8590	1.0514	1.0941
	.9300	1.0540	1.0990
	1.0000	1.0485	1.0842
St'bd rake	.0177	.6241	.3812
	.0443	.7452	.5495
	.0797	.8169	.6584
	.1507	.9461	.8861
	.2920	1.0451	1.0792
	.4340	1.0396	1.0693
	.5050	1.0514	1.0891
	.5750	1.0514	1.0941
	.6460	1.0485	1.0842
	.7180	1.0514	1.0891
	.7890	1.0514	1.0941
	.8590	1.0540	1.0990
	.9300	1.0540	1.0990
	1.0000	1.0540	1.0990

Station	z/h	U_l/U_∞	q_l/q_∞
Wake rake	.0000	.5500	.3019
	.0833	.8903	.7908
	.1667	1.1178	1.2466
	.2081	1.2299	1.5091
	.2500	1.2718	1.6136
	.2919	.8909	.7917
	.3338	.9052	.8176
	.3750	.9323	.8672
	.4170	.9549	.9097
	.4580	.9640	.9272
	.5000	.9516	.9034
	.5420	.9608	.9210
	.5830	.9604	.9200
	.6250	.9890	.9758
	.6670	.9801	.9581
	.7080	.9853	.9686
	.7500	.9868	.9716
	.7900	.9858	.9695
	.8333	1.0103	1.0181
	.9170	1.0092	1.0161
	1.0000	1.0107	1.0192

TABLE 5 Concluded

CHORDWISE PRESSURE-DISTRIBUTION, BOUNDARY-LAYER, AND WAKE CHARACTERISTICS OF THE MODEL WITH PROPELLER 2 INSTALLED WITH $\beta = 20°$

(p) $n = 133.33$ rps $\frac{U_\infty}{nD} = .508$ $\alpha = -.5°$

Station	x/l	C_p
Port hull	.0144	.629
	.0625	.020
	.1107	-.111
	.1587	-.152
	.2068	-.169
	.2545	-.186
	.3025	-.208
	.3510	-.177
	.3985	-.180
	.4470	-.170
	.4950	-.162
	.5430	-.152
	.5910	-.116
	.6390	-.101
	.6870	-.080
	.7350	-.055
	.7845	-.040
	.8310	-.050
	.8795	.005
	.9275	.106
St'bd hull	.7600	-.030
	.8075	-.081
	.8550	-.020
	.9045	.066
	.9520	.167

Station	y/h	U_l/U_∞	q_l/q_∞
Port rake	.0177	.4725	.2234
	.0443	.5795	.3401
	.0797	.6642	.4467
	.1507	.7956	.6396
	.2920	.9716	.9492
	.4340	1.0157	1.0406
	.5050	1.0279	1.0609
	.5750	1.0309	1.0711
	.6460	1.0430	1.0914
	.7180	1.0309	1.0711
	.7890	1.0370	1.0812
	.8590	1.0603	1.1320
	.9300	1.0603	1.1320
	1.0000	1.0455	1.1015
St'bd rake	.0177	.6008	.3604
	.0443	.7229	.5228
	.0797	.7918	.6345
	.1507	.9191	.8477
	.2920	1.0400	1.0863
	.4340	1.0430	1.0964
	.5050	1.0549	1.1218
	.5750	1.0549	1.1168
	.6460	1.0549	1.1218
	.7180	1.0549	1.1218
	.7890	1.0549	1.1168
	.8590	1.0520	1.1117
	.9300	1.0485	1.1066
	1.0000	1.0549	1.1168

Station	z/h	U_l/U_∞	q_l/q_∞
Wake rake	.0000	.5803	.3362
	.0833	.9586	.9169
	.1667	1.2260	1.4996
	.2081	1.3552	1.8326
	.2500	1.3591	1.8430
	.2919	.9232	.8502
	.3338	.9147	.8346
	.3750	.9466	.8940
	.4170	.9581	.9158
	.4580	.9569	.9138
	.5000	.9466	.8940
	.5420	.9608	.9210
	.5830	.9591	.9178
	.6250	.9934	.9845
	.6670	.9860	.9699
	.7080	.9876	.9730
	.7500	.9855	.9689
	.7900	.9891	.9761
	.8333	1.0085	1.0147
	.9170	1.0172	1.0323
	1.0000	1.0100	1.0178

TABLE 6

CHORDWISE PRESSURE-DISTRIBUTION, BOUNDARY-LAYER, AND WAKE CHARACTERISTICS OF THE MODEL WITH PROPELLER 2 INSTALLED WITH $\beta = 25$

(a) n = 71.17 rps $\frac{U_\infty}{nD} = 1.436$ $\alpha = -.5$

Station	x/l	C_p
Port hull	.0144	.581
	.0625	-.015
	.1107	-.133
	.1587	-.167
	.2068	-.193
	.2545	-.192
	.3025	-.191
	.3510	-.182
	.3985	-.175
	.4470	-.162
	.4950	-.151
	.5430	-.147
	.5910	-.109
	.6390	-.100
	.6870	-.074
	.7350	-.044
	.7845	-.033
	.8310	-.044
	.8795	.029
	.9275	.149
St'bd hull	.7600	-.024
	.8075	-.060
	.8550	-.015
	.9045	.086
	.9520	.236

Station	y/h	U_l/U_∞	q_l/q_∞
Port rake	.0177	.4139	.1693
	.0443	.5364	.2851
	.0797	.6131	.3742
	.1507	.7360	.5367
	.2920	.9108	.8241
	.4340	.9853	.9621
	.5050	1.0266	1.0468
	.5750	1.0211	1.0334
	.6460	1.0211	1.0356
	.7180	1.0211	1.0334
	.7890	1.0184	1.0290
	.8590	1.0518	1.0980
	.9300	1.0518	1.0980
	1.0000	1.0440	1.0824
St'bd rake	.0177	.6067	.3653
	.0443	.7344	.5345
	.0797	.7975	.6303
	.1507	.9200	.8396
	.2920	1.0360	1.0646
	.4340	1.0360	1.0646
	.5050	1.0427	1.0780
	.5750	1.0440	1.0802
	.6460	1.0427	1.0780
	.7180	1.0440	1.0824
	.7890	1.0427	1.0780
	.8590	1.0493	1.0913
	.9300	1.0493	1.0913
	1.0000	1.0493	1.0913

Station	z/h	U_l/U_∞	q_l/q_∞
Wake rake	.0000	.4721	.2223
	.0833	.5979	.3567
	.1667	.7256	.5252
	.2081	.7922	.6262
	.2500	.8431	.7091
	.2919	.8466	.7151
	.3338	.8862	.7837
	.3750	.9239	.8517
	.4170	.9489	.8985
	.4580	.9684	.9356
	.5000	.9751	.9486
	.5420	.9741	.9468
	.5830	.9749	.9480
	.6250	1.0046	1.0070
	.6670	1.0029	1.0036
	.7080	1.0023	1.0023
	.7500	1.0036	1.0050
	.7900	1.0019	1.0014
	.8333	1.0245	1.0472
	.9170	1.0232	1.0445
	1.0000	1.0254	1.0491

TABLE 6 Continued

CHORDWISE PRESSURE-DISTRIBUTION, BOUNDARY-LAYER, AND WAKE CHARACTERISTICS OF THE MODEL WITH PROPELLER 2 INSTALLED WITH $\beta = 25°$

(b) $n = 80.01$ rps $\frac{U_\infty}{nD} = 1.275$ $\alpha = -.5°$

Station	x/l	C_p
Port hull	.0144	.614
	.0625	.018
	.1107	-.121
	.1587	-.144
	.2068	-.189
	.2545	-.194
	.3025	-.195
	.3510	-.184
	.3985	-.175
	.4470	-.177
	.4950	-.153
	.5430	-.144
	.5910	-.122
	.6390	-.105
	.6870	-.079
	.7350	-.054
	.7845	-.031
	.8310	-.054
	.8795	.022
	.9275	.146
St'bd hull	.7600	-.018
	.8075	-.058
	.8550	-.011
	.9045	.087
	.9520	.232

Station	y/h	U_1/U_∞	q_1/q_∞
Port rake	.0177	.4219	.1779
	.0443	.5402	.2905
	.0797	.6211	.3851
	.1507	.7453	.5563
	.2920	.9322	.8671
	.4340	.9871	.9752
	.5050	1.0178	1.0360
	.5750	1.0123	1.0225
	.6460	1.0162	1.0315
	.7180	1.0123	1.0248
	.7890	1.0135	1.0270
	.8590	1.0393	1.0788
	.9300	1.0405	1.0833
	1.0000	1.0380	1.0766
St'bd rake	.0177	.6006	.3604
	.0443	.7147	.5113
	.0797	.7920	.6261
	.1507	.9126	.8311
	.2920	1.0231	1.0473
	.4340	1.0272	1.0541
	.5050	1.0351	1.0721
	.5750	1.0380	1.0766
	.6460	1.0340	1.0676
	.7180	1.0364	1.0743
	.7890	1.0364	1.0743
	.8590	1.0393	1.0788
	.9300	1.0405	1.0833
	1.0000	1.0418	1.0856

Station	z/h	U_1/U_∞	q_1/q_∞
Wake rake	.0000	.4695	.2199
	.0833	.6041	.3641
	.1667	.7434	.5515
	.2081	.8115	.6570
	.2500	.8622	.7416
	.2919	.8424	.7081
	.3338	.8788	.7705
	.3750	.9167	.8383
	.4170	.9422	.8858
	.4580	.9618	.9230
	.5000	.9700	.9388
	.5420	.9693	.9374
	.5830	.9717	.9420
	.6250	.9993	.9984
	.6670	.9985	.9946
	.7080	.9987	.9950
	.7500	.9991	.9960
	.7900	1.0001	.9978
	.8333	1.0251	1.0484
	.9170	1.0240	1.0462
	1.0000	1.0255	1.0494

TABLE 6 Continued

CHORDWISE PRESSURE-DISTRIBUTION, BOUNDARY-LAYER, AND WAKE CHARACTERISTICS OF THE MODEL WITH PROPELLER 2 INSTALLED WITH $\beta = 25°$

(c) $n = 88.94$ rps $\frac{U_\infty}{nD} = 1.147$ $\alpha = -.5°$

Station	x/l	C_p
Port hull	.0144	.608
	.0625	.004
	.1107	-.132
	.1587	-.162
	.2068	-.200
	.2545	-.201
	.3025	-.200
	.3510	-.184
	.3985	-.182
	.4470	-.170
	.4950	-.159
	.5430	-.146
	.5910	-.112
	.6390	-.105
	.6870	-.079
	.7350	-.049
	.7845	-.024
	.8310	-.051
	.8795	.015
	.9275	.139
St'bd hull	.7600	-.024
	.8075	-.060
	.8550	-.011
	.9045	.076
	.9520	.227

Station	y/h	U_l/U_∞	q_l/q_∞
Port rake	.0177	.4348	.1892
	.0443	.5548	.3086
	.0797	.6320	.4009
	.1507	.7484	.5608
	.2920	.9334	.8716
	.4340	.9827	.9662
	.5050	1.0213	1.0428
	.5750	1.0131	1.0270
	.6460	1.0173	1.0360
	.7180	1.0158	1.0315
	.7890	1.0186	1.0383
	.8590	1.0509	1.1036
	.9300	1.0481	1.0991
	1.0000	1.0413	1.0856
St'bd rake	.0177	.6076	.3694
	.0443	.7279	.5293
	.0797	.7972	.6351
	.1507	.9122	.8311
	.2920	1.0226	1.0473
	.4340	1.0268	1.0541
	.5050	1.0389	1.0788
	.5750	1.0347	1.0698
	.6460	1.0347	1.0721
	.7180	1.0347	1.0721
	.7890	1.0360	1.0743
	.8590	1.0400	1.0833
	.9300	1.0400	1.0833
	1.0000	1.0413	1.0856

Station	z/h	U_l/U_∞	q_l/q_∞
Wake rake	.0000	.4762	.2263
	.0833	.6434	.4130
	.1667	.7772	.6025
	.2081	.8503	.7214
	.2500	.9009	.8097
	.2919	.8506	.7220
	.3338	.8850	.7814
	.3750	.9231	.8501
	.4170	.9441	.8891
	.4580	.9638	.9268
	.5000	.9689	.9365
	.5420	.9713	.9412
	.5830	.9698	.9384
	.6250	1.0001	.9979
	.6670	1.0009	.9998
	.7080	1.0001	.9979
	.7500	1.0017	1.0011
	.7900	1.0022	1.0021
	.8333	1.0247	1.0476
	.9170	1.0194	1.0369
	1.0000	1.0251	1.0486

TABLE 6 Continued

CHORDWISE PRESSURE-DISTRIBUTION, BOUNDARY-LAYER, AND WAKE CHARACTERISTICS OF THE MODEL WITH PROPELLER 2 INSTALLED WITH $\beta = 25°$

(d) $n = 97.77$ rps $\frac{U_\infty}{nD} = 1.040$ $\alpha = -.5°$

Station	x/l	C_p
Port hull	.0144	.615
	.0625	.006
	.1107	-.125
	.1587	-.155
	.2068	-.201
	.2545	-.198
	.3025	-.194
	.3510	-.189
	.3985	-.180
	.4470	-.170
	.4950	-.162
	.5430	-.160
	.5910	-.121
	.6390	-.112
	.6870	-.090
	.7350	-.070
	.7845	-.034
	.8310	-.061
	.8795	.004
	.9275	.130
St'bd hull	.7600	-.032
	.8075	-.066
	.8550	-.011
	.9045	.082
	.9520	.217

Station	y/h	U_l/U_∞	q_l/q_∞
Port rake	.0177	.4392	.1945
	.0443	.5522	.3066
	.0797	.6345	.4050
	.1507	.7569	.5767
	.2920	.9370	.8856
	.4340	.9865	.9817
	.5050	1.0252	1.0595
	.5750	1.0197	1.0481
	.6460	1.0213	1.0503
	.7180	1.0197	1.0481
	.7890	1.0225	1.0549
	.8590	1.0440	1.1007
	.9300	1.0440	1.1007
	1.0000	1.0416	1.0938
St'bd rake	.0177	.6123	.3776
	.0443	.7269	.5332
	.0797	.8003	.6453
	.1507	.9233	.8604
	.2920	1.0266	1.0618
	.4340	1.0293	1.0686
	.5050	1.0386	1.0870
	.5750	1.0386	1.0892
	.6460	1.0376	1.0847
	.7180	1.0386	1.0870
	.7890	1.0386	1.0870
	.8590	1.0430	1.0961
	.9300	1.0440	1.1007
	1.0000	1.0440	1.0984

Station	z/h	U_l/U_∞	q_l/q_∞
Wake rake	.0000	.4848	.2346
	.0833	.6517	.4238
	.1667	.7947	.6302
	.2081	.8751	.7641
	.2500	.9554	.9106
	.2919	.8974	.8035
	.3338	.8921	.7941
	.3750	.9275	.8582
	.4170	.9418	.8849
	.4580	.9610	.9214
	.5000	.9675	.9341
	.5420	.9688	.9364
	.5830	.9702	.9392
	.6250	.9995	.9968
	.6670	.9995	.9968
	.7080	.9991	.9959
	.7500	1.0006	.9991
	.7900	.9988	.9955
	.8333	1.0232	1.0446
	.9170	1.0199	1.0380
	1.0000	1.0232	1.0446

TABLE 6 Continued

CHORDWISE PRESSURE-DISTRIBUTION, BOUNDARY-LAYER, AND WAKE CHARACTERISTICS OF THE MODEL WITH PROPELLER 2 INSTALLED WITH $\beta = 25°$

(e) $n = 67.00$ rps $\frac{U_\infty}{nD} = 1.022$ $\alpha = -.5°$

Station	x/l	C_p
Port hull	.0144	.591
	.0625	-.030
	.1107	-.163
	.1587	-.188
	.2068	-.224
	.2545	-.204
	.3025	-.204
	.3510	-.204
	.3985	-.204
	.4470	-.185
	.4950	-.180
	.5430	-.178
	.5910	-.150
	.6390	-.132
	.6870	-.101
	.7350	-.076
	.7845	-.040
	.8310	-.081
	.8795	-.015
	.9275	.102
St'bd hull	.7600	-.051
	.8075	-.086
	.8550	-.030
	.9045	.051
	.9520	.209

Station	y/h	U_1/U_∞	q_1/q_∞
Port rake	.0177	.4158	.1786
	.0443	.5267	.2857
	.0797	.6180	.3878
	.1507	.7448	.5663
	.2920	.9229	.8673
	.4340	.9836	.9847
	.5050	1.0240	1.0714
	.5750	1.0240	1.0663
	.6460	1.0116	1.0459
	.7180	1.0179	1.0561
	.7890	1.0143	1.0510
	.8590	1.0509	1.1276
	.9300	1.0479	1.1173
	1.0000	1.0414	1.1071
St'bd rake	.0177	.5826	.3469
	.0443	.7158	.5204
	.0797	.8010	.6531
	.1507	.9291	.8827
	.2920	1.0360	1.0918
	.4340	1.0295	1.0816
	.5050	1.0390	1.1020
	.5750	1.0390	1.0969
	.6460	1.0414	1.1071
	.7180	1.0390	1.0969
	.7890	1.0390	1.1020
	.8590	1.0533	1.1327
	.9300	1.0533	1.1327
	1.0000	1.0533	1.1327

Station	z/h	U_1/U_∞	q_1/q_∞
Wake rake	.0000	.5208	.2706
	.0833	.7434	.5515
	.1667	.8620	.7414
	.2081	.9291	.8613
	.2500	.9341	.8705
	.2919	.8662	.7486
	.3338	.9002	.8086
	.3750	.9302	.8633
	.4170	.9581	.9160
	.4580	.9716	.9418
	.5000	.9763	.9511
	.5420	.9763	.9511
	.5830	.9768	.9521
	.6250	.9988	.9955
	.6670	.9994	.9965
	.7080	.9963	.9903
	.7500	.9983	.9945
	.7900	.9994	.9965
	.8333	1.0290	1.0564
	.9170	1.0290	1.0564
	1.0000	1.0285	1.0553

TABLE 6 Continued

CHORDWISE PRESSURE-DISTRIBUTION, BOUNDARY-LAYER, AND WAKE CHARACTERISTICS OF THE MODEL WITH PROPELLER 2 INSTALLED WITH $\beta = 25°$

(f) $n = 106.38$ rps $\frac{V_\infty}{nD} = .956$ $\alpha = -.5°$

Station	x/l	C_p
Port hull	.0144	.605
	.0625	.004
	.1107	-.121
	.1587	-.153
	.2068	-.189
	.2545	-.190
	.3025	-.189
	.3510	-.180
	.3985	-.173
	.4470	-.180
	.4950	-.155
	.5430	-.144
	.5910	-.122
	.6390	-.101
	.6870	-.075
	.7350	-.045
	.7845	-.027
	.8310	-.040
	.8795	.018
	.9275	.137
St'bd hull	.7600	-.020
	.8075	-.054
	.8550	-.006
	.9045	.081
	.9520	.214

Station	y/h	U_1/U_∞	q_1/q_∞
Port rake	.0177	.4392	.1919
	.0443	.5570	.3093
	.0797	.6345	.3995
	.1507	.7535	.5643
	.2920	.9310	.8623
	.4340	.9865	.9684
	.5050	1.0225	1.0406
	.5750	1.0197	1.0339
	.6460	1.0213	1.0384
	.7180	1.0184	1.0316
	.7890	1.0213	1.0384
	.8590	1.0496	1.0971
	.9300	1.0483	1.0926
	1.0000	1.0416	1.0790
St'bd rake	.0177	.6049	.3657
	.0443	.7249	.5237
	.0797	.7965	.6321
	.1507	.9033	.8126
	.2920	1.0158	1.0248
	.4340	1.0293	1.0542
	.5050	1.0321	1.0609
	.5750	1.0348	1.0655
	.6460	1.0321	1.0587
	.7180	1.0321	1.0609
	.7890	1.0348	1.0655
	.8590	1.0430	1.0813
	.9300	1.0440	1.0835
	1.0000	1.0400	1.0767

Station	z/h	U_1/U_∞	q_1/q_∞
Wake rake	.0000	.5262	.2763
	.0833	.6517	.4238
	.1667	.8074	.6504
	.2081	.8947	.7987
	.2500	1.0017	1.0010
	.2919	.9896	.9772
	.3338	.9162	.8376
	.3750	.9511	.9027
	.4170	.9367	.8756
	.4580	.9561	.9120
	.5000	.9644	.9279
	.5420	.9646	.9285
	.5830	.9675	.9341
	.6250	.9976	.9931
	.6670	.9983	.9945
	.7080	.9978	.9935
	.7500	.9988	.9955
	.7900	.9986	.9949
	.8333	1.0227	1.0436
	.9170	1.0215	1.0412
	1.0000	1.0218	1.0418

TABLE 6 Continued

CHORDWISE PRESSURE-DISTRIBUTION, BOUNDARY-LAYER, AND WAKE CHARACTERISTICS OF THE MODEL WITH PROPELLER 2 INSTALLED WITH $\beta = 25°$

(g) $n = 74.18$ rps $\frac{U_\infty}{nD} = .922$ $\alpha = -.5°$

Station	x/l	C_p
Port hull	.0144	.592
	.0625	.000
	.1107	-.129
	.1587	-.159
	.2068	-.194
	.2545	-.201
	.3025	-.209
	.3510	-.194
	.3985	-.184
	.4470	-.194
	.4950	-.164
	.5430	-.159
	.5910	-.114
	.6390	-.109
	.6870	-.070
	.7350	-.054
	.7845	-.034
	.8310	-.054
	.8795	.010
	.9275	.134
St'bd hull	.7600	-.039
	.8075	-.069
	.8550	-.019
	.9045	.069
	.9520	.199

Station	y/h	U_1/U_∞	q_1/q_∞
Port rake	.0177	.4436	.1990
	.0443	.5556	.3035
	.0797	.6381	.4030
	.1507	.7699	.5871
	.2920	.9591	.9154
	.4340	.9999	.9950
	.5050	1.0275	1.0498
	.5750	1.0335	1.0597
	.6460	1.0245	1.0398
	.7180	1.0149	1.0249
	.7890	1.0184	1.0299
	.8590	1.0514	1.0995
	.9300	1.0450	1.0846
	1.0000	1.0484	1.0896
St'bd rake	.0177	.5829	.3383
	.0443	.7067	.4975
	.0797	.7779	.6020
	.1507	.8990	.8060
	.2920	1.0245	1.0448
	.4340	1.0396	1.0746
	.5050	1.0484	1.0896
	.5750	1.0450	1.0846
	.6460	1.0419	1.0796
	.7180	1.0419	1.0796
	.7890	1.0396	1.0697
	.8590	1.0419	1.0796
	.9300	1.0484	1.0896
	1.0000	1.0450	1.0846

Station	z/h	U_1/U_∞	q_1/q_∞
Wake rake	.0000	.5089	.2584
	.0833	.7732	.5964
	.1667	.9059	.8186
	.2081	.9742	.9469
	.2500	.9603	.9200
	.2919	.8702	.7556
	.3338	.9030	.8135
	.3750	.9335	.8694
	.4170	.9640	.9272
	.4580	.9731	.9447
	.5000	.9769	.9520
	.5420	.9769	.9520
	.5830	.9773	.9530
	.6250	.9972	.9923
	.6670	1.0035	1.0047
	.7080	.9999	.9975
	.7500	1.0009	.9995
	.7900	1.0015	1.0006
	.8333	1.0254	1.0492
	.9170	1.0245	1.0471
	1.0000	1.0245	1.0471

TABLE 6 Continued

CHORDWISE PRESSURE-DISTRIBUTION, BOUNDARY-LAYER, AND WAKE CHARACTERISTICS

OF THE MODEL WITH PROPELLER 2 INSTALLED WITH $\beta = 25°$

(h) n = 115.27 rps $\frac{U_\infty}{nD}$ = .880 α = -.5°

Station	x/l	C_p
Port hull	.0144	.617
	.0625	.013
	.1107	-.111
	.1587	-.145
	.2068	-.186
	.2545	-.185
	.3025	-.184
	.3510	-.175
	.3985	-.170
	.4470	-.164
	.4950	-.157
	.5430	-.145
	.5910	-.122
	.6390	-.102
	.6870	-.077
	.7350	-.047
	.7845	-.018
	.8310	-.047
	.8795	.011
	.9275	.132
St'bd hull	.7600	-.015
	.8075	-.056
	.8550	-.015
	.9045	.075
	.9520	.207

Station	y/h	U_l/U_∞	q_l/q_∞
Port rake	.0177	.4373	.1913
	.0443	.5604	.3144
	.0797	.6380	.4077
	.1507	.7602	.5786
	.2920	.9447	.8929
	.4340	.9923	.9863
	.5050	1.0216	1.0433
	.5750	1.0177	1.0364
	.6460	1.0188	1.0387
	.7180	1.0163	1.0319
	.7890	1.0177	1.0342
	.8590	1.0460	1.0934
	.9300	1.0435	1.0888
	1.0000	1.0367	1.0752
St'bd rake	.0177	.6061	.3690
	.0443	.7263	.5262
	.0797	.7961	.6333
	.1507	.9145	.8360
	.2920	1.0216	1.0433
	.4340	1.0271	1.0547
	.5050	1.0326	1.0661
	.5750	1.0311	1.0638
	.6460	1.0340	1.0683
	.7180	1.0326	1.0661
	.7890	1.0326	1.0661
	.8590	1.0406	1.0820
	.9300	1.0406	1.0820
	1.0000	1.0395	1.0797

Station	z/h	U_l/U_∞	q_l/q_∞
Wake rake	.0000	.5651	.3185
	.0833	.6893	.4741
	.1667	.8469	.7155
	.2081	.9367	.8753
	.2500	1.0536	1.1075
	.2919	1.0389	1.0768
	.3338	.9288	.8608
	.3750	.9617	.9228
	.4170	.9329	.8683
	.4580	.9524	.9049
	.5000	.9595	.9186
	.5420	.9624	.9242
	.5830	.9669	.9327
	.6250	.9996	.9970
	.6670	1.0008	.9993
	.7080	.9996	.9970
	.7500	1.0001	.9979
	.7900	.9994	.9965
	.8333	1.0229	1.0440
	.9170	1.0266	1.0515
	1.0000	1.0229	1.0440

TABLE 6 Continued

CHORDWISE PRESSURE-DISTRIBUTION, BOUNDARY-LAYER, AND WAKE CHARACTERISTICS OF THE MODEL WITH PROPELLER 2 INSTALLED WITH β = 25°

(i) n = 81.32 rps $\frac{U_\infty}{nD}$ = .837 α = -.5°

Station	x/l	C_p
Port hull	.0144	.616
	.0625	-.031
	.1107	-.155
	.1587	-.196
	.2068	-.214
	.2545	-.225
	.3025	-.228
	.3510	-.228
	.3985	-.217
	.4470	-.222
	.4950	-.196
	.5430	-.186
	.5910	-.155
	.6390	-.139
	.6870	-.108
	.7350	-.082
	.7845	-.072
	.8310	-.093
	.8795	-.020
	.9275	.098
St'bd hull	.7600	-.051
	.8075	-.114
	.8550	-.062
	.9045	.041
	.9520	.176

Station	y/h	U_l/U_∞	q_l/q_∞
Port rake	.0177	.4542	.2124
	.0443	.5753	.3368
	.0797	.6561	.4404
	.1507	.7820	.6269
	.2920	.9643	.9482
	.4340	1.0177	1.0570
	.5050	1.0452	1.1140
	.5750	1.0452	1.1140
	.6460	1.0422	1.1088
	.7180	1.0330	1.0933
	.7890	1.0300	1.0829
	.8590	1.0595	1.1503
	.9300	1.0654	1.1606
	1.0000	1.0570	1.1451
St'bd rake	.0177	.5958	.3627
	.0443	.7200	.5285
	.0797	.7933	.6477
	.1507	.9175	.8601
	.2920	1.0330	1.0933
	.4340	1.0452	1.1192
	.5050	1.0540	1.1347
	.5750	1.0570	1.1399
	.6460	1.0540	1.1347
	.7180	1.0540	1.1347
	.7890	1.0506	1.1295
	.8590	1.0506	1.1295
	.9300	1.0540	1.1347
	1.0000	1.0570	1.1451

Station	z/h	U_l/U_∞	q_l/q_∞
Wake rake	.0000	.5454	.2967
	.0833	.8193	.6696
	.1667	.9660	.9308
	.2081	1.0309	1.0604
	.2500	.9848	.9674
	.2919	.8725	.7595
	.3338	.9073	.8211
	.3750	.9345	.8713
	.4170	.9654	.9298
	.4580	.9735	.9455
	.5000	.9795	.9570
	.5420	.9751	.9486
	.5830	.9783	.9548
	.6250	.9973	.9924
	.6670	1.0000	.9977
	.7080	.9948	.9873
	.7500	1.0000	.9977
	.7900	1.0000	.9977
	.8333	1.0243	1.0468
	.9170	1.0248	1.0478
	1.0000	1.0264	1.0509

TABLE 6 Continued

CHORDWISE PRESSURE-DISTRIBUTION, BOUNDARY-LAYER, AND WAKE CHARACTERISTICS OF THE MODEL WITH PROPELLER 2 INSTALLED WITH $\beta = 25°$

(j) $n = 124.19$ rps $\frac{U_\infty}{nD} = .815$ $\alpha = -.5°$

Station	x/l	C_p
Port hull	.0144	.606
	.0625	.000
	.1107	-.127
	.1587	-.169
	.2068	-.199
	.2545	-.200
	.3025	-.199
	.3510	-.189
	.3985	-.182
	.4470	-.185
	.4950	-.159
	.5430	-.150
	.5910	-.113
	.6390	-.101
	.6870	-.077
	.7350	-.053
	.7845	-.030
	.8310	-.050
	.8795	.006
	.9275	.125
St'bd hull	.7600	-.032
	.8075	-.055
	.8550	-.018
	.9045	.064
	.9520	.206

Station	y/h	U_l/U_∞	q_l/q_∞
Port rake	.0177	.4444	.1991
	.0443	.5619	.3194
	.0797	.6373	.4120
	.1507	.7587	.5810
	.2920	.9320	.8796
	.4340	.9909	.9931
	.5050	1.0215	1.0556
	.5750	1.0189	1.0486
	.6460	1.0215	1.0556
	.7180	1.0189	1.0486
	.7890	1.0203	1.0509
	.8590	1.0500	1.1157
	.9300	1.0487	1.1111
	1.0000	1.0433	1.0995
St'bd rake	.0177	.6034	.3681
	.0443	.7282	.5370
	.0797	.8022	.6505
	.1507	.9259	.8681
	.2920	1.0270	1.0671
	.4340	1.0270	1.0671
	.5050	1.0407	1.0949
	.5750	1.0393	1.0926
	.6460	1.0367	1.0856
	.7180	1.0407	1.0949
	.7890	1.0378	1.0903
	.8590	1.0433	1.0995
	.9300	1.0446	1.1042
	1.0000	1.0446	1.1042

Station	z/h	U_l/U_∞	q_l/q_∞
Wake rake	.0000	.5951	.3532
	.0833	.7219	.5200
	.1667	.8915	.7930
	.2081	.9865	.9710
	.2500	1.1007	1.2086
	.2919	1.0495	1.0991
	.3338	.9368	.8757
	.3750	.9677	.9343
	.4170	.9376	.8771
	.4580	.9554	.9106
	.5000	.9611	.9215
	.5420	.9631	.9253
	.5830	.9664	.9319
	.6250	.9980	.9937
	.6670	.9988	.9951
	.7080	.9959	.9895
	.7500	.9975	.9929
	.7900	.9980	.9937
	.8333	1.0213	1.0405
	.9170	1.0238	1.0458
	1.0000	1.0223	1.0429

TABLE 6 Continued

CHORDWISE PRESSURE-DISTRIBUTION, BOUNDARY-LAYER, AND WAKE CHARACTERISTICS OF THE MODEL WITH PROPELLER 2 INSTALLED WITH $\beta = 25°$

(k) n = 88.53 rps $\frac{U_\infty}{nD} = .765$ $\alpha = -.5°$

Station	x/l	C_p
Port hull	.0144	.609
	.0625	-.026
	.1107	-.151
	.1587	-.187
	.2068	-.239
	.2545	-.235
	.3025	-.239
	.3510	-.213
	.3985	-.218
	.4470	-.218
	.4950	-.192
	.5430	-.187
	.5910	-.156
	.6390	-.130
	.6870	-.114
	.7350	-.093
	.7845	-.072
	.8310	-.093
	.8795	-.026
	.9275	.093
St'bd hull	.7600	-.057
	.8075	-.114
	.8550	-.046
	.9045	.041
	.9520	.177

Station	y/h	U_l/U_∞	q_l/q_∞
Port rake	.0177	.4482	.2031
	.0443	.5614	.3229
	.0797	.6397	.4167
	.1507	.7661	.5938
	.2920	.9458	.9115
	.4340	1.0070	1.0313
	.5050	1.0406	1.1042
	.5750	1.0380	1.0990
	.6460	1.0350	1.0938
	.7180	1.0319	1.0833
	.7890	1.0289	1.0781
	.8590	1.0556	1.1354
	.9300	1.0556	1.1354
	1.0000	1.0406	1.1042
St'bd rake	.0177	.6100	.3802
	.0443	.7278	.5365
	.0797	.8057	.6615
	.1507	.9329	.8854
	.2920	1.0526	1.1302
	.4340	1.0556	1.1354
	.5050	1.0592	1.1406
	.5750	1.0592	1.1406
	.6460	1.0556	1.1354
	.7180	1.0526	1.1302
	.7890	1.0556	1.1354
	.8590	1.0622	1.1458
	.9300	1.0622	1.1458
	1.0000	1.0622	1.1510

Station	z/h	U_l/U_∞	q_l/q_∞
Wake rake	.0000	.5706	.3250
	.0833	.8529	.7258
	.1667	1.0117	1.0213
	.2081	1.0755	1.1541
	.2500	.9868	.9716
	.2919	.8791	.7712
	.3338	.9140	.8334
	.3750	.9402	.8819
	.4170	.9701	.9389
	.4580	.9760	.9505
	.5000	.9782	.9547
	.5420	.9772	.9527
	.5830	.9792	.9569
	.6250	1.0033	1.0043
	.6670	1.0044	1.0064
	.7080	.9980	.9937
	.7500	1.0022	1.0022
	.7900	1.0027	1.0033
	.8333	1.0340	1.0665
	.9170	1.0340	1.0665
	1.0000	1.0364	1.0719

TABLE 6 Continued

CHORDWISE PRESSURE-DISTRIBUTION, BOUNDARY-LAYER, AND WAKE CHARACTERISTICS OF THE MODEL WITH PROPELLER 2 INSTALLED WITH $\beta = 25°$

(1) $n = 133.25$ rps $\frac{U_\infty}{nD} = .763$ $\alpha = -.5°$

Station	x/l	C_p
Port hull	.0144	.618
	.0625	.022
	.1107	-.107
	.1587	-.141
	.2068	-.160
	.2545	-.178
	.3025	-.180
	.3510	-.180
	.3985	-.175
	.4470	-.180
	.4950	-.153
	.5430	-.146
	.5910	-.109
	.6390	-.102
	.6870	-.070
	.7350	-.045
	.7845	-.020
	.8310	-.047
	.8795	.009
	.9275	.118
St'bd hull	.7600	-.018
	.8075	-.057
	.8550	-.009
	.9045	.070
	.9520	.196

Station	y/h	U_l/U_∞	q_l/q_∞
Port rake	.0177	.4545	.2055
	.0443	.5679	.3196
	.0797	.6473	.4155
	.1507	.7691	.5890
	.2920	.9503	.8973
	.4340	.9938	.9817
	.5050	1.0276	1.0502
	.5750	1.0246	1.0434
	.6460	1.0246	1.0434
	.7180	1.0261	1.0457
	.7890	1.0261	1.0457
	.8590	1.0505	1.0959
	.9300	1.0518	1.1005
	1.0000	1.0451	1.0868
St'bd rake	.0177	.6087	.3676
	.0443	.7274	.5251
	.0797	.7924	.6233
	.1507	.9073	.8174
	.2920	1.0276	1.0502
	.4340	1.0329	1.0616
	.5050	1.0451	1.0845
	.5750	1.0451	1.0845
	.6460	1.0451	1.0868
	.7180	1.0451	1.0845
	.7890	1.0464	1.0890
	.8590	1.0493	1.0936
	.9300	1.0464	1.0890
	1.0000	1.0505	1.0959

Station	z/h	U_l/U_∞	q_l/q_∞
Wake rake	.0000	.6355	.4029
	.0833	.7675	.5877
	.1667	.9521	.9044
	.2081	1.0496	1.0992
	.2500	1.1340	1.2831
	.2919	1.0127	1.0233
	.3338	.9188	.8423
	.3750	.9493	.8991
	.4170	.9404	.8826
	.4580	.9585	.9167
	.5000	.9622	.9237
	.5420	.9637	.9267
	.5830	.9671	.9333
	.6250	.9983	.9944
	.6670	.9986	.9949
	.7080	.9983	.9944
	.7500	.9990	.9959
	.7900	.9990	.9959
	.8333	1.0242	1.0465
	.9170	1.0263	1.0508
	1.0000	1.0242	1.0465

TABLE 6 Continued

CHORDWISE PRESSURE-DISTRIBUTION, BOUNDARY-LAYER, AND WAKE CHARACTERISTICS OF THE MODEL WITH PROPELLER 2 INSTALLED WITH $\beta = 25$ (m) $n = 95.71$ rps $\frac{U_\infty}{nD} = .711$ $\alpha = -.5$

Station	x/l	C_p
Port hull	.0144	.605
	.0625	-.036
	.1107	-.163
	.1587	-.200
	.2068	-.231
	.2545	-.227
	.3025	-.221
	.3510	-.215
	.3985	-.205
	.4470	-.190
	.4950	-.184
	.5430	-.178
	.5910	-.164
	.6390	-.139
	.6870	-.114
	.7350	-.089
	.7845	-.073
	.8310	-.094
	.8795	-.026
	.9275	.089
St'bd hull	.7600	-.063
	.8075	-.100
	.8550	-.052
	.9045	.031
	.9520	.173

Station	y/h	U_l/U_∞	q_l/q_∞
Port rake	.0177	.4258	.1895
	.0443	.5475	.3105
	.0797	.6220	.4000
	.1507	.7537	.5895
	.2920	.9483	.9368
	.4340	1.0057	1.0474
	.5050	1.0334	1.1105
	.5750	1.0304	1.1000
	.6460	1.0304	1.1000
	.7180	1.0304	1.1053
	.7890	1.0304	1.1053
	.8590	1.0575	1.1579
	.9300	1.0545	1.1526
	1.0000	1.0456	1.1368
St'bd rake	.0177	.6022	.3737
	.0443	.7246	.5474
	.0797	.8061	.6737
	.1507	.9349	.9053
	.2920	1.0456	1.1316
	.4340	1.0456	1.1316
	.5050	1.0456	1.1316
	.5750	1.0456	1.1368
	.6460	1.0456	1.1368
	.7180	1.0456	1.1368
	.7890	1.0456	1.1368
	.8590	1.0481	1.1421
	.9300	1.0481	1.1421
	1.0000	1.0456	1.1368

Station	z/h	U_l/U_∞	q_l/q_∞
Wake rake	.0000	.6143	.3765
	.0833	.8983	.8052
	.1667	1.0669	1.1356
	.2081	1.1317	1.2779
	.2500	.9852	.9684
	.2919	.8783	.7697
	.3338	.9083	.8230
	.3750	.9349	.8721
	.4170	.9604	.9202
	.4580	.9641	.9275
	.5000	.9664	.9317
	.5420	.9659	.9307
	.5830	.9691	.9370
	.6250	.9952	.9882
	.6670	.9968	.9914
	.7080	.9932	.9841
	.7500	.9952	.9882
	.7900	.9937	.9850
	.8333	1.0208	1.0394
	.9170	1.0196	1.0374
	1.0000	1.0222	1.0425

TABLE 6 Continued

CHORDWISE PRESSURE-DISTRIBUTION, BOUNDARY-LAYER, AND WAKE CHARACTERISTICS OF THE MODEL WITH PROPELLER 2 INSTALLED WITH $\beta = 25°$

(n) n = 102.81 rps $\frac{U_\infty}{nD}$ = .661 α = -.5°

Station	x/l	C_p
Port hull	.0144	.597
	.0625	-.010
	.1107	-.170
	.1587	-.190
	.2068	-.205
	.2545	-.225
	.3025	-.232
	.3510	-.232
	.3985	-.221
	.4470	-.221
	.4950	-.201
	.5430	-.190
	.5910	-.149
	.6390	-.139
	.6870	-.118
	.7350	-.097
	.7845	-.067
	.8310	-.092
	.8795	-.036
	.9275	.077
St'bd hull	.7600	-.051
	.8075	-.108
	.8550	-.046
	.9045	.025
	.9520	.164

Station	y/h	U_l/U_∞	q_l/q_∞
Port rake	.0177	.4188	.1804
	.0443	.5538	.3093
	.0797	.6283	.4021
	.1507	.7709	.6031
	.2920	.9586	.9330
	.4340	1.0190	1.0515
	.5050	1.0283	1.0722
	.5750	1.0315	1.0773
	.6460	1.0217	1.0619
	.7180	1.0253	1.0670
	.7890	1.0190	1.0567
	.8590	1.0555	1.1289
	.9300	1.0586	1.1340
	1.0000	1.0520	1.1237
St'bd rake	.0177	.5815	.3454
	.0443	.7289	.5412
	.0797	.8030	.6546
	.1507	.9325	.8814
	.2920	1.0345	1.0876
	.4340	1.0406	1.0979
	.5050	1.0466	1.1082
	.5750	1.0520	1.1237
	.6460	1.0436	1.1031
	.7180	1.0466	1.1082
	.7890	1.0466	1.1082
	.8590	1.0520	1.1237
	.9300	1.0466	1.1134
	1.0000	1.0466	1.1134

Station	z/h	U_l/U_∞	q_l/q_∞
Wake rake	.0000	.6480	.4191
	.0833	.9370	.8759
	.1667	1.1282	1.2699
	.2081	1.1809	1.3914
	.2500	.9835	.9650
	.2919	.8869	.7848
	.3338	.9097	.8256
	.3750	.9331	.8686
	.4170	.9624	.9241
	.4580	.9705	.9399
	.5000	.9717	.9419
	.5420	.9685	.9357
	.5830	.9717	.9419
	.6250	.9977	.9933
	.6670	.9988	.9953
	.7080	.9962	.9902
	.7500	.9977	.9933
	.7900	.9988	.9953
	.8333	1.0217	1.0415
	.9170	1.0227	1.0436
	1.0000	1.0217	1.0415

TABLE 6 Continued

CHORDWISE PRESSURE-DISTRIBUTION, BOUNDARY-LAYER, AND WAKE CHARACTERISTICS OF THE MODEL WITH PROPELLER 2 INSTALLED WITH $\beta = 25$

(o) $n = 110.00$ rps $\frac{U_\infty}{nD} = .616$ $\alpha = -.5$

Station	x/l	C_p
Port hull	.0144	.611
	.0625	-.020
	.1107	-.145
	.1587	-.165
	.2068	-.185
	.2545	-.196
	.3025	-.207
	.3510	-.186
	.3985	-.186
	.4470	-.178
	.4950	-.171
	.5430	-.155
	.5910	-.124
	.6390	-.114
	.6870	-.091
	.7350	-.067
	.7845	-.057
	.8310	-.082
	.8795	-.015
	.9275	.098
St'bd hull	.7600	-.046
	.8075	-.098
	.8550	-.031
	.9045	.046
	.9520	.160

Station	y/h	U_l/U_∞	q_l/q_∞
Port rake	.0177	.4270	.1865
	.0443	.5491	.3057
	.0797	.6485	.4249
	.1507	.7683	.6010
	.2920	.9511	.9171
	.4340	1.0024	1.0207
	.5050	1.0303	1.0777
	.5750	1.0303	1.0777
	.6460	1.0273	1.0725
	.7180	1.0237	1.0674
	.7890	1.0237	1.0674
	.8590	1.0541	1.1295
	.9300	1.0605	1.1399
	1.0000	1.0486	1.1140
St'bd rake	.0177	.5925	.3575
	.0443	.7128	.5181
	.0797	.7926	.6373
	.1507	.9144	.8497
	.2920	1.0364	1.0933
	.4340	1.0334	1.0829
	.5050	1.0456	1.1088
	.5750	1.0456	1.1088
	.6460	1.0486	1.1140
	.7180	1.0486	1.1140
	.7890	1.0486	1.1140
	.8590	1.0426	1.1036
	.9300	1.0486	1.1192
	1.0000	1.0456	1.1088

Station	z/h	U_l/U_∞	q_l/q_∞
Wake rake	.0000	.7031	.4933
	.0833	1.0033	1.0045
	.1667	1.2372	1.5273
	.2081	1.2440	1.5441
	.2500	.9806	.9593
	.2919	.8856	.7826
	.3338	.9138	.8331
	.3750	.9382	.8783
	.4170	.9660	.9308
	.4580	.9719	.9425
	.5000	.9724	.9435
	.5420	.9687	.9361
	.5830	.9719	.9425
	.6250	.9960	.9898
	.6670	.9975	.9930
	.7080	.9960	.9898
	.7500	.9949	.9877
	.7900	.9966	.9908
	.8333	1.0263	1.0508
	.9170	1.0293	1.0572
	1.0000	1.0247	1.0477

TABLE 6 Concluded

CHORDWISE PRESSURE-DISTRIBUTION, BOUNDARY-LAYER, AND WAKE CHARACTERISTICS OF THE MODEL WITH PROPELLER 2 INSTALLED WITH $\beta = 25°$

(p) $n = 117.22$ rps $\frac{U_\infty}{nD} = .578$ $\alpha = -.5°$

Station	x/l	C_p
Port hull	.0144	.606
	.0625	-.015
	.1107	-.145
	.1587	-.176
	.2068	-.222
	.2545	-.223
	.3025	-.222
	.3510	-.202
	.3985	-.196
	.4470	-.183
	.4950	-.171
	.5430	-.165
	.5910	-.140
	.6390	-.119
	.6870	-.103
	.7350	-.082
	.7845	-.051
	.8310	-.088
	.8795	-.010
	.9275	.077
St'bd hull	.7600	-.046
	.8075	-.093
	.8550	-.041
	.9045	.041
	.9520	.150

Station	y/h	U_l/U_∞	q_l/q_∞
Port rake	.0177	.4344	.1917
	.0443	.5548	.3109
	.0797	.6387	.4145
	.1507	.7649	.5907
	.2920	.9477	.9119
	.4340	1.0086	1.0363
	.5050	1.0334	1.0881
	.5750	1.0364	1.0933
	.6460	1.0237	1.0674
	.7180	1.0237	1.0674
	.7890	1.0210	1.0622
	.8590	1.0605	1.1399
	.9300	1.0605	1.1399
	1.0000	1.0541	1.1295
St'bd rake	.0177	.6040	.3679
	.0443	.7223	.5285
	.0797	.7960	.6425
	.1507	.9240	.8653
	.2920	1.0364	1.0933
	.4340	1.0364	1.0933
	.5050	1.0486	1.1192
	.5750	1.0486	1.1192
	.6460	1.0456	1.1088
	.7180	1.0486	1.1140
	.7890	1.0486	1.1192
	.8590	1.0426	1.1036
	.9300	1.0456	1.1088
	1.0000	1.0486	1.1192

Station	z/h	U_l/U_∞	q_l/q_∞
Wake rake	.0000	.7425	.5501
	.0833	1.0571	1.1150
	.1667	1.3209	1.7409
	.2081	1.2824	1.6409
	.2500	.9960	.9898
	.2919	.8928	.7952
	.3338	.9149	.8352
	.3750	.9376	.8772
	.4170	.9632	.9257
	.4580	.9680	.9351
	.5000	.9692	.9372
	.5420	.9664	.9319
	.5830	.9703	.9393
	.6250	.9912	.9803
	.6670	.9927	.9835
	.7080	.9901	.9783
	.7500	.9907	.9793
	.7900	.9901	.9783
	.8333	1.0216	1.0414
	.9170	1.0180	1.0339
	1.0000	1.0237	1.0455

TABLE 7

CHORDWISE PRESSURE-DISTRIBUTION, BOUNDARY-LAYER, AND WAKE CHARACTERISTICS OF THE MODEL WITH PROPELLER 2 INSTALLED WITH $\beta = 30°$

(a) $n = 67.83$ rps $\frac{U_\infty}{nD} = 1.502$ $\alpha = -.5°$

Station	x/l	C_p
Port hull	.0144	.587
	.0625	-.002
	.1107	-.132
	.1587	-.152
	.2068	-.180
	.2545	-.190
	.3025	-.192
	.3510	-.187
	.3985	-.178
	.4470	-.167
	.4950	-.156
	.5430	-.145
	.5910	-.108
	.6390	-.099
	.6870	-.075
	.7350	-.050
	.7845	-.028
	.8310	-.046
	.8795	.026
	.9275	.143
St'bd hull	.7600	-.028
	.8075	-.064
	.8550	-.008
	.9045	.081
	.9520	.227

Station	y/h	U_l/U_∞	q_l/q_∞
Port rake	.0177	.4267	.1832
	.0443	.5420	.2936
	.0797	.6213	.3863
	.1507	.7391	.5475
	.2920	.9196	.8477
	.4340	.9782	.9603
	.5050	1.0164	1.0353
	.5750	1.0097	1.0221
	.6460	1.0124	1.0287
	.7180	1.0110	1.0265
	.7890	1.0137	1.0309
	.8590	1.0388	1.0817
	.9300	1.0375	1.0795
	1.0000	1.0322	1.0684
St'bd rake	.0177	.5944	.3532
	.0443	.7168	.5143
	.0797	.7819	.6137
	.1507	.9030	.8168
	.2920	1.0164	1.0353
	.4340	1.0232	1.0486
	.5050	1.0338	1.0728
	.5750	1.0338	1.0728
	.6460	1.0296	1.0640
	.7180	1.0309	1.0662
	.7890	1.0322	1.0684
	.8590	1.0375	1.0795
	.9300	1.0388	1.0817
	1.0000	1.0388	1.0817

Station	z/h	U_l/U_∞	q_l/q_∞
Wake rake	.0000	.4881	.2377
	.0833	.6479	.4189
	.1667	.7726	.5956
	.2081	.8346	.6948
	.2500	.8805	.7736
	.2919	.8435	.7098
	.3338	.8795	.7717
	.3750	.9146	.8346
	.4170	.9406	.8829
	.4580	.9570	.9139
	.5000	.9635	.9261
	.5420	.9668	.9325
	.5830	.9661	.9312
	.6250	.9949	.9876
	.6670	.9940	.9858
	.7080	.9946	.9872
	.7500	.9953	.9885
	.7900	.9949	.9876
	.8333	1.0168	1.0318
	.9170	1.0164	1.0308
	1.0000	1.0173	1.0326

TABLE 7 Continued

CHORDWISE PRESSURE-DISTRIBUTION, BOUNDARY-LAYER, AND WAKE CHARACTERISTICS OF THE MODEL WITH PROPELLER 2 INSTALLED WITH $\beta = 30°$

(b) $n = 77.15$ rps $\frac{U_\infty}{nD} = 1.326$ $\alpha = -.5°$

Station	x/l	C_p
Port hull	.0144	.612
	.0625	.026
	.1107	-.116
	.1587	-.144
	.2068	-.183
	.2545	-.188
	.3025	-.192
	.3510	-.179
	.3985	-.175
	.4470	-.177
	.4950	-.153
	.5430	-.144
	.5910	-.107
	.6390	-.105
	.6870	-.068
	.7350	-.046
	.7845	-.032
	.8310	-.046
	.8795	.017
	.9275	.144
St'bd hull	.7600	-.021
	.8075	-.056
	.8550	-.008
	.9045	.081
	.9520	.227

Station	y/h	U_l/U_∞	q_l/q_∞
Port rake	.0177	.4305	.1838
	.0443	.5467	.2976
	.0797	.6213	.3851
	.1507	.7430	.5492
	.2920	.9282	.8556
	.4340	.9824	.9606
	.5050	1.0232	1.0394
	.5750	1.0178	1.0306
	.6460	1.0178	1.0306
	.7180	1.0164	1.0284
	.7890	1.0205	1.0350
	.8590	1.0467	1.0897
	.9300	1.0467	1.0897
	1.0000	1.0414	1.0788
St'bd rake	.0177	.6039	.3632
	.0443	.7221	.5186
	.0797	.7942	.6280
	.1507	.9135	.8293
	.2920	1.0309	1.0569
	.4340	1.0338	1.0613
	.5050	1.0362	1.0678
	.5750	1.0362	1.0678
	.6460	1.0375	1.0700
	.7180	1.0338	1.0613
	.7890	1.0362	1.0678
	.8590	1.0404	1.0766
	.9300	1.0404	1.0766
	1.0000	1.0404	1.0766

Station	z/h	U_l/U_∞	q_l/q_∞
Wake rake	.0000	.4927	.2422
	.0833	.6646	.4408
	.1667	.7837	.6129
	.2081	.8510	.7226
	.2500	.8928	.7954
	.2919	.8491	.7194
	.3338	.8835	.7791
	.3750	.9173	.8396
	.4170	.9404	.8824
	.4580	.9578	.9151
	.5000	.9630	.9253
	.5420	.9648	.9288
	.5830	.9655	.9302
	.6250	.9940	.9858
	.6670	.9958	.9894
	.7080	.9940	.9858
	.7500	.9963	.9903
	.7900	.9958	.9894
	.8333	1.0164	1.0308
	.9170	1.0166	1.0312
	1.0000	1.0166	1.0312

TABLE 7 Continued

CHORDWISE PRESSURE-DISTRIBUTION, BOUNDARY-LAYER, AND WAKE CHARACTERISTICS OF THE MODEL WITH PROPELLER 2 INSTALLED WITH $\beta = 30$

(c) $n = 86.50$ rps $\frac{U_\infty}{nD} = 1.179$ $\alpha = -.5$

Station	x/l	C_p
Port hull	.0144	.638
	.0625	.035
	.1107	-.103
	.1587	-.134
	.2068	-.155
	.2545	-.165
	.3025	-.170
	.3510	-.170
	.3985	-.167
	.4470	-.170
	.4950	-.145
	.5430	-.136
	.5910	-.097
	.6390	-.088
	.6870	-.070
	.7350	-.048
	.7845	-.015
	.8310	-.041
	.8795	.024
	.9275	.143
St'bd hull	.7600	-.011
	.8075	-.050
	.8550	.000
	.9045	.088
	.9520	.220

Station	y/h	U_l/U_∞	q_l/q_∞
Port rake	.0177	.4410	.1943
	.0443	.5588	.3113
	.0797	.6368	.4040
	.1507	.7566	.5695
	.2920	.9392	.8786
	.4340	.9876	.9713
	.5050	1.0177	1.0309
	.5750	1.0177	1.0309
	.6460	1.0177	1.0309
	.7180	1.0189	1.0331
	.7890	1.0204	1.0353
	.8590	1.0455	1.0883
	.9300	1.0443	1.0861
	1.0000	1.0378	1.0706
St'bd rake	.0177	.6012	.3598
	.0443	.7157	.5099
	.0797	.7817	.6071
	.1507	.8927	.7925
	.2920	1.0055	1.0066
	.4340	1.0281	1.0530
	.5050	1.0335	1.0640
	.5750	1.0349	1.0662
	.6460	1.0335	1.0640
	.7180	1.0335	1.0640
	.7890	1.0349	1.0662
	.8590.	1.0429	1.0817
	.9300	1.0429	1.0817
	1.0000	1.0390	1.0751

Station	z/h	U_l/U_∞	q_l/q_∞
Wake rake	.0000	.5043	.2537
	.0833	.7054	.4964
	.1667	.8222	.6745
	.2081	.8883	.7873
	.2500	.9224	.8488
	.2919	.8543	.7281
	.3338	.8847	.7809
	.3750	.9198	.8442
	.4170	.9408	.8832
	.4580	.9570	.9140
	.5000	.9618	.9231
	.5420	.9633	.9259
	.5830	.9638	.9268
	.6250	.9947	.9874
	.6670	.9943	.9864
	.7080	.9947	.9874
	.7500	.9966	.9910
	.7900	.9943	.9864
	.8333	1.0156	1.0291
	.9170	1.0156	1.0291
	1.0000	1.0151	1.0282

TABLE 7 Continued

CHORDWISE PRESSURE-DISTRIBUTION, BOUNDARY-LAYER, AND WAKE CHARACTERISTICS OF THE MODEL WITH PROPELLER 2 INSTALLED WITH $\beta = 30°$

(d) $n = 63.33$ rps $\frac{U_\infty}{nD} = 1.072$ $\alpha = -.5°$

Station	x/l	C_p
Port hull	.0144	.605
	.0625	-.005
	.1107	-.130
	.1587	-.165
	.2068	-.220
	.2545	-.215
	.3025	-.215
	.3510	-.205
	.3985	-.190
	.4470	-.195
	.4950	-.175
	.5430	-.155
	.5910	-.125
	.6390	-.115
	.6870	-.093
	.7350	-.065
	.7845	-.040
	.8310	-.065
	.8795	.005
	.9275	.130
St'bd hull	.7600	-.025
	.8075	-.080
	.8550	-.025
	.9045	.065
	.9520	.215

Station	y/h	U_l/U_∞	q_l/q_∞
Port rake	.0177	.4055	.1650
	.0443	.5364	.2900
	.0797	.6058	.3700
	.1507	.7506	.5650
	.2920	.9425	.8950
	.4340	1.0022	1.0100
	.5050	1.0261	1.0600
	.5750	1.0235	1.0550
	.6460	1.0235	1.0550
	.7180	1.0235	1.0550
	.7890	1.0235	1.0550
	.8590	1.0498	1.1100
	.9300	1.0731	1.1550
	1.0000	1.0473	1.1000
St'bd rake	.0177	.5964	.3550
	.0443	.7177	.5200
	.0797	.7860	.6250
	.1507	.9260	.8600
	.2920	1.0295	1.0650
	.4340	1.0380	1.0850
	.5050	1.0443	1.0950
	.5750	1.0527	1.1150
	.6460	1.0473	1.1050
	.7180	1.0527	1.1150
	.7890	1.0527	1.1150
	.8590	1.0527	1.1150
	.9300	1.0527	1.1150
	1.0000	1.0556	1.1200

Station	z/h	U_l/U_∞	q_l/q_∞
Wake rake	.0000	.4999	.2493
	.0833	.7465	.5560
	.1667	.8705	.7559
	.2081	.9325	.8678
	.2500	.9215	.8473
	.2919	.8609	.7396
	.3338	.8937	.7970
	.3750	.9293	.8616
	.4170	.9544	.9088
	.4580	.9662	.9314
	.5000	.9703	.9396
	.5420	.9682	.9355
	.5830	.9694	.9375
	.6250	.9923	.9827
	.6670	.9930	.9837
	.7080	.9914	.9806
	.7500	.9923	.9827
	.7900	.9930	.9837
	.8333	1.0129	1.0237
	.9170	1.0114	1.0206
	1.0000	1.0149	1.0278

TABLE 7 Continued

CHORDWISE PRESSURE-DISTRIBUTION, BOUNDARY-LAYER, AND WAKE CHARACTERISTICS OF THE MODEL WITH PROPELLER 2 INSTALLED WITH $\beta = 30°$

(e) $n = 95.82$ rps $\frac{U_\infty}{nD} = 1.063$ $\alpha = -.5°$

Station	x/l	C_p
Port hull	.0144	.596
	.0625	.006
	.1107	-.120
	.1587	-.156
	.2068	-.196
	.2545	-.194
	.3025	-.192
	.3510	-.180
	.3985	-.178
	.4470	-.168
	.4950	-.151
	.5430	-.129
	.5910	-.107
	.6390	-.098
	.6870	-.072
	.7350	-.044
	.7845	-.026
	.8310	-.040
	.8795	.022
	.9275	.133
St'bd hull	.7600	-.020
	.8075	-.051
	.8550	-.004
	.9045	.075
	.9520	.214

Station	y/h	U_l/U_∞	q_l/q_∞
Port rake	.0177	.4324	.1875
	.0443	.5470	.3013
	.0797	.6263	.3951
	.1507	.7443	.5558
	.2920	.9250	.8594
	.4340	.9855	.9754
	.5050	1.0169	1.0402
	.5750	1.0142	1.0335
	.6460	1.0156	1.0379
	.7180	1.0156	1.0379
	.7890	1.0156	1.0357
	.8590	1.0423	1.0915
	.9300	1.0436	1.0938
	1.0000	1.0356	1.0781
St'bd rake	.0177	.6066	.3705
	.0443	.7239	.5268
	.0797	.7943	.6339
	.1507	.9071	.8259
	.2920	1.0156	1.0379
	.4340	1.0235	1.0536
	.5050	1.0331	1.0714
	.5750	1.0289	1.0647
	.6460	1.0331	1.0737
	.7180	1.0302	1.0670
	.7890	1.0331	1.0714
	.8590	1.0356	1.0781
	.9300	1.0331	1.0714
	1.0000	1.0356	1.0781

Station	z/h	U_l/U_∞	q_l/q_∞
Wake rake	.0000	.5136	.2633
	.0833	.7412	.5480
	.1667	.8624	.7420
	.2081	.9232	.8503
	.2500	.9220	.8481
	.2919	.8532	.7263
	.3338	.8840	.7796
	.3750	.9198	.8439
	.4170	.9402	.8820
	.4580	.9541	.9083
	.5000	.9596	.9188
	.5420	.9592	.9178
	.5830	.9604	.9202
	.6250	.9926	.9831
	.6670	.9919	.9817
	.7080	.9913	.9804
	.7500	.9926	.9831
	.7900	.9928	.9836
	.8333	1.0145	1.0267
	.9170	1.0142	1.0263
	1.0000	1.0163	1.0304

TABLE 7 Continued

CHORDWISE PRESSURE-DISTRIBUTION, BOUNDARY-LAYER, AND WAKE CHARACTERISTICS OF THE MODEL WITH PROPELLER 2 INSTALLED WITH $\beta = 30°$

(f) $n = 105.21$ rps $\frac{U_\infty}{nD} = .967$ $\alpha = -.5°$

Station	x/l	C_p
Port hull	.0144	.607
	.0625	.015
	.1107	-.119
	.1587	-.148
	.2068	-.188
	.2545	-.187
	.3025	-.186
	.3510	-.175
	.3985	-.172
	.4470	-.172
	.4950	-.150
	.5430	-.141
	.5910	-.104
	.6390	-.095
	.6870	-.073
	.7350	-.051
	.7845	-.031
	.8310	-.048
	.8795	.017
	.9275	.133
St'bd hull	.7600	-.015
	.8075	-.062
	.8550	-.008
	.9045	.073
	.9520	.210

Station	y/h	U_1/U_∞	q_1/q_∞
Port rake	.0177	.4356	.1885
	.0443	.5525	.3038
	.0797	.6273	.3925
	.1507	.7509	.5610
	.2920	.9310	.8625
	.4340	.9869	.9690
	.5050	1.0171	1.0310
	.5750	1.0157	1.0266
	.6460	1.0171	1.0310
	.7180	1.0171	1.0288
	.7890	1.0185	1.0333
	.8590	1.0452	1.0887
	.9300	1.0437	1.0843
	1.0000	1.0401	1.0754
St'bd rake	.0177	.6075	.3659
	.0443	.7249	.5233
	.0797	.7902	.6208
	.1507	.9072	.8182
	.2920	1.0225	1.0399
	.4340	1.0279	1.0510
	.5050	1.0304	1.0576
	.5750	1.0304	1.0576
	.6460	1.0304	1.0576
	.7180	1.0318	1.0599
	.7890	1.0304	1.0576
	.8590	1.0401	1.0754
	.9300	1.0401	1.0754
	1.0000	1.0401	1.0776

Station	z/h	U_1/U_∞	q_1/q_∞
Wake rake	.0000	.5329	.2834
	.0833	.7861	.6165
	.1667	.9138	.8331
	.2081	.9723	.9432
	.2500	.9322	.8672
	.2919	.8663	.7487
	.3338	.8957	.8003
	.3750	.9279	.8589
	.4170	.9473	.8953
	.4580	.9589	.9174
	.5000	.9632	.9257
	.5420	.9632	.9257
	.5830	.9632	.9257
	.6250	.9930	.9837
	.6670	.9941	.9861
	.7080	.9934	.9847
	.7500	.9937	.9851
	.7900	.9946	.9870
	.8333	1.0183	1.0345
	.9170	1.0178	1.0335
	1.0000	1.0189	1.0359

TABLE 7 Continued

CHORDWISE PRESSURE-DISTRIBUTION, BOUNDARY-LAYER, AND WAKE CHARACTERISTICS OF THE MODEL WITH PROPELLER 2 INSTALLED WITH $\beta = 30°$

(g) $n = 73.33$ rps $\frac{U_\infty}{nD} = .923$ $\alpha = -.5°$

Station	x/l	C_p
Port hull	.0144	.600
	.0625	-.005
	.1107	-.130
	.1587	-.160
	.2068	-.180
	.2545	-.182
	.3025	-.200
	.3510	-.180
	.3985	-.180
	.4470	-.172
	.4950	-.165
	.5430	-.140
	.5910	-.120
	.6390	-.105
	.6870	-.079
	.7350	-.060
	.7845	-.040
	.8310	-.050
	.8795	.010
	.9275	.135
St'bd hull	.7600	-.030
	.8075	-.070
	.8550	-.030
	.9045	.060
	.9520	.210

Station	y/h	U_l/U_∞	q_l/q_∞
Port rake	.0177	.4156	.1750
	.0443	.5380	.2900
	.0797	.6177	.3800
	.1507	.7529	.5650
	.2920	.9386	.8800
	.4340	1.0082	1.0150
	.5050	1.0385	1.0800
	.5750	1.0325	1.0650
	.6460	1.0325	1.0650
	.7180	1.0265	1.0550
	.7890	1.0325	1.0650
	.8590	1.0587	1.1200
	.9300	1.0622	1.1300
	1.0000	1.0474	1.0950
St'bd rake	.0177	.6075	.3700
	.0443	.7276	.5300
	.0797	.8078	.6500
	.1507	.9420	.8850
	.2920	1.0385	1.0800
	.4340	1.0385	1.0800
	.5050	1.0505	1.1000
	.5750	1.0505	1.1050
	.6460	1.0505	1.1000
	.7180	1.0528	1.1100
	.7890	1.0505	1.1000
	.8590	1.0505	1.1000
	.9300	1.0505	1.1000
	1.0000	1.0528	1.1100

Station	z/h	U_l/U_∞	q_l/q_∞
Wake rake	.0000	.5419	.2930
	.0833	.8064	.6489
	.1667	.9507	.9017
	.2081	1.0021	1.0018
	.2500	.9408	.8831
	.2919	.8812	.7748
	.3338	.9090	.8243
	.3750	.9424	.8862
	.4170	.9632	.9254
	.4580	.9717	.9419
	.5000	.9737	.9460
	.5420	.9737	.9460
	.5830	.9759	.9502
	.6250	.9968	.9915
	.6670	.9983	.9945
	.7080	.9968	.9915
	.7500	.9958	.9893
	.7900	.9979	.9935
	.8333	1.0220	1.0420
	.9170	1.0194	1.0368
	1.0000	1.0235	1.0451

TABLE 7 Continued

CHORDWISE PRESSURE-DISTRIBUTION, BOUNDARY-LAYER, AND WAKE CHARACTERISTICS OF THE MODEL WITH PROPELLER 2 INSTALLED WITH $\beta = 30°$

(h) $n = 114.47$ rps $\frac{U_\infty}{nD} = .885$ $\alpha = -.5$

Station	x/l	C_p
Port hull	.0144	.604
	.0625	.000
	.1107	-.127
	.1587	-.154
	.2068	-.194
	.2545	-.196
	.3025	-.198
	.3510	-.185
	.3985	-.180
	.4470	-.169
	.4950	-.154
	.5430	-.145
	.5910	-.109
	.6390	-.100
	.6870	-.080
	.7350	-.055
	.7845	-.029
	.8310	-.051
	.8795	.008
	.9275	.122
St'bd hull	.7600	-.022
	.8075	-.064
	.8550	-.015
	.9045	.075
	.9520	.203

Station	y/h	U_l/U_∞	q_l/q_∞
Port rake	.0177	.4437	.1964
	.0443	.5548	.3058
	.0797	.6276	.3906
	.1507	.7524	.5625
	.2920	.9421	.8817
	.4340	.9949	.9844
	.5050	1.0280	1.0513
	.5750	1.0185	1.0313
	.6460	1.0212	1.0379
	.7180	1.0185	1.0313
	.7890	1.0212	1.0357
	.8590	1.0494	1.0960
	.9300	1.0480	1.0915
	1.0000	1.0442	1.0826
St'bd rake	.0177	.6099	.3705
	.0443	.7295	.5290
	.0797	.7972	.6317
	.1507	.9213	.8438
	.2920	1.0322	1.0580
	.4340	1.0334	1.0603
	.5050	1.0413	1.0781
	.5750	1.0413	1.0781
	.6460	1.0400	1.0759
	.7180	1.0388	1.0737
	.7890	1.0400	1.0759
	.8590	1.0442	1.0826
	.9300	1.0467	1.0893
	1.0000	1.0467	1.0893

Station	z/h	U_l/U_∞	q_l/q_∞
Wake rake	.0000	.5631	.3164
	.0833	.8321	.6908
	.1667	.9744	.9473
	.2081	1.0160	1.0300
	.2500	.9348	.8719
	.2919	.8666	.7494
	.3338	.8915	.7930
	.3750	.9259	.8553
	.4170	.9421	.8855
	.4580	.9548	.9097
	.5000	.9587	.9171
	.5420	.9589	.9175
	.5830	.9614	.9221
	.6250	.9918	.9816
	.6670	.9927	.9835
	.7080	.9916	.9812
	.7500	.9925	.9830
	.7900	.9925	.9830
	.8333	1.0171	1.0322
	.9170	1.0169	1.0318
	1.0000	1.0171	1.0322

TABLE 7 Continued

CHORDWISE PRESSURE-DISTRIBUTION, BOUNDARY-LAYER, AND WAKE CHARACTERISTICS OF THE MODEL WITH PROPELLER 2 INSTALLED WITH $\beta = 30°$

(i) $n = 123.90$ rps $\frac{U_\infty}{nD} = .816$ $\alpha = -.5°$

Station	x/l	C_p
Port hull	.0144	.618
	.0625	.011
	.1107	-.118
	.1587	-.150
	.2068	-.196
	.2545	-.196
	.3025	-.196
	.3510	-.180
	.3985	-.175
	.4470	-.165
	.4950	-.153
	.5430	-.146
	.5910	-.111
	.6390	-.100
	.6870	-.089
	.7350	-.054
	.7845	-.029
	.8310	-.050
	.8795	.011
	.9275	.121
St'bd hull	.7600	-.029
	.8075	-.068
	.8550	-.016
	.9045	.068
	.9520	.198

Station	y/h	U_l/U_∞	q_l/q_∞
Port rake	.0177	.4450	.2009
	.0443	.5587	.3151
	.0797	.6399	.4132
	.1507	.7544	.5753
	.2920	.9432	.8995
	.4340	.9892	.9909
	.5050	1.0212	1.0548
	.5750	1.0144	1.0411
	.6460	1.0212	1.0548
	.7180	1.0184	1.0479
	.7890	1.0200	1.0525
	.8590	1.0403	1.0936
	.9300	1.0416	1.0959
	1.0000	1.0373	1.0890
St'bd rake	.0177	.6000	.3630
	.0443	.7221	.5274
	.0797	.7937	.6370
	.1507	.9099	.8379
	.2920	1.0212	1.0548
	.4340	1.0280	1.0685
	.5050	1.0361	1.0845
	.5750	1.0349	1.0822
	.6460	1.0334	1.0799
	.7180	1.0334	1.0799
	.7890	1.0334	1.0799
	.8590	1.0373	1.0890
	.9300	1.0403	1.0936
	1.0000	1.0403	1.0936

Station	z/h	U_l/U_∞	q_l/q_∞
Wake rake	.0000	.5897	.3470
	.0833	.8796	.7720
	.1667	1.0443	1.0881
	.2081	1.0601	1.1212
	.2500	.9506	.9017
	.2919	.8753	.7644
	.3338	.8949	.7990
	.3750	.9283	.8597
	.4170	.9434	.8882
	.4580	.9545	.9092
	.5000	.9595	.9186
	.5420	.9583	.9162
	.5830	.9595	.9186
	.6250	.9909	.9798
	.6670	.9919	.9816
	.7080	.9912	.9802
	.7500	.9914	.9807
	.7900	.9921	.9821
	.8333	1.0147	1.0274
	.9170	1.0152	1.0283
	1.0000	1.0159	1.0297

TABLE 7 Continued

CHORDWISE PRESSURE-DISTRIBUTION, BOUNDARY-LAYER, AND WAKE CHARACTERISTICS OF THE MODEL WITH PROPELLER 2 INSTALLED WITH $\beta = 30°$

(j) n = 83.32 rps $\frac{U_\infty}{nD}$ = .813 α = -.5°

Station	x/l	C_p
Port hull	.0144	.633
	.0625	.020
	.1107	-.125
	.1587	-.155
	.2068	-.196
	.2545	-.194
	.3025	-.191
	.3510	-.185
	.3985	-.175
	.4470	-.167
	.4950	-.160
	.5430	-.155
	.5910	-.115
	.6390	-.110
	.6870	-.084
	.7350	-.055
	.7945	-.045
	.8310	-.055
	.8795	.010
	.9275	.115
St'bd hull	.7600	-.040
	.8075	-.085
	.8550	-.030
	.9045	.065
	.9520	.196

Station	y/h	U_l/U_∞	q_l/q_∞
Port rake	.0177	.4577	.2111
	.0443	.5601	.3166
	.0797	.6417	.4121
	.1507	.7804	.6131
	.2920	.9540	.9146
	.4340	1.0042	1.0151
	.5050	1.0376	1.0804
	.5750	1.0254	1.0603
	.6460	1.0346	1.0754
	.7180	1.0224	1.0553
	.7890	1.0254	1.0603
	.8590	1.0494	1.1106
	.9300	1.0577	1.1256
	1.0000	1.0494	1.1055
St'bd rake	.0177	.5976	.3568
	.0443	.7191	.5176
	.0797	.7875	.6281
	.1507	.9080	.8291
	.2920	1.0429	1.0955
	.4340	1.0429	1.0955
	.5050	1.0494	1.1106
	.5750	1.0464	1.1005
	.6460	1.0400	1.0905
	.7180	1.0400	1.0905
	.7890	1.0464	1.1005
	.8590	1.0376	1.0854
	.9300	1.0429	1.0955
	1.0000	1.0464	1.1005

Station	z/h	U_l/U_∞	q_l/q_∞
Wake rake	.0000	.5729	.3274
	.0833	.8584	.7352
	.1667	1.0275	1.0534
	.2081	1.0592	1.1193
	.2500	.9545	.9092
	.2919	.8845	.7806
	.3338	.9052	.8175
	.3750	.9382	.8783
	.4170	.9584	.9164
	.4580	.9675	.9340
	.5000	.9680	.9349
	.5420	.9680	.9349
	.5830	.9701	.9391
	.6250	.9943	.9864
	.6670	.9933	.9844
	.7080	.9922	.9823
	.7500	.9933	.9844
	.7900	.9933	.9844
	.8333	1.0164	1.0307
	.9170	1.0154	1.0287
	1.0000	1.0179	1.0338

TABLE 7 Continued

CHORDWISE PRESSURE-DISTRIBUTION, BOUNDARY-LAYER, AND WAKE CHARACTERISTICS OF THE MODEL WITH PROPELLER 2 INSTALLED WITH $\beta = 30°$

(k) n = 133.33 rps $\frac{V_\infty}{nD}$ = .758 α = -.5°

Station	x/l	C_p
Port hull	.0144	.599
	.0625	.011
	.1107	-.121
	.1587	-.150
	.2068	-.180
	.2545	-.170
	.3025	-.182
	.3510	-.180
	.3985	-.175
	.4470	-.180
	.4950	-.150
	.5430	-.144
	.5910	-.103
	.6390	-.101
	.6870	-.080
	.7350	-.047
	.7845	-.020
	.8310	-.049
	.8795	.006
	.9275	.121
St'bd hull	.7600	-.024
	.8075	-.063
	.8550	-.013
	.9045	.065
	.9520	.184

Station	y/h	U_1/U_∞	q_1/q_∞
Port rake	.0177	.4514	.2027
	.0443	.5619	.3153
	.0797	.6402	.4077
	.1507	.7563	.5698
	.2920	.9404	.8806
	.4340	.9927	.9820
	.5050	1.0243	1.0473
	.5750	1.0174	1.0315
	.6460	1.0243	1.0450
	.7180	1.0243	1.0450
	.7890	1.0258	1.0495
	.8590	1.0488	1.0968
	.9300	1.0474	1.0946
	1.0000	1.0420	1.0811
St'bd rake	.0177	.6118	.3716
	.0443	.7282	.5293
	.0797	.8011	.6396
	.1507	.9149	.8333
	.2920	1.0258	1.0495
	.4340	1.0271	1.0518
	.5050	1.0353	1.0676
	.5750	1.0353	1.0676
	.6460	1.0340	1.0653
	.7180	1.0340	1.0653
	.7890	1.0311	1.0608
	.8590	1.0391	1.0766
	.9300	1.0431	1.0856
	1.0000	1.0420	1.0811

Station	z/h	U_1/U_∞	q_1/q_∞
Wake rake	.0000	.6152	.3776
	.0833	.9203	.8451
	.1667	1.1042	1.2166
	.2081	1.0933	1.1928
	.2500	.9618	.9231
	.2919	.8773	.7679
	.3338	.8974	.8035
	.3750	.9307	.8642
	.4170	.9414	.8843
	.4580	.9501	.9006
	.5000	.9550	.9100
	.5420	.9540	.9082
	.5830	.9553	.9105
	.6250	.9890	.9759
	.6670	.9883	.9745
	.7080	.9885	.9750
	.7500	.9885	.9750
	.7900	.9873	.9727
	.8333	1.0118	1.0217
	.9170	1.0133	1.0245
	1.0000	1.0136	1.0250

TABLE 7 Continued

CHORDWISE PRESSURE-DISTRIBUTION, BOUNDARY-LAYER, AND WAKE CHARACTERISTICS OF THE MODEL WITH PROPELLER 2 INSTALLED WITH $\beta = 30°$

(1) n = 93.41 rps $\frac{U_\infty}{nD} = .725$ $\alpha = -.5°$

Station	x/l	C_p
Port hull	.0144	.608
	.0625	-.015
	.1107	-.145
	.1587	-.170
	.2068	-.191
	.2545	-.198
	.3025	-.206
	.3510	-.185
	.3985	-.185
	.4470	-.175
	.4950	-.165
	.5430	-.140
	.5910	-.125
	.6390	-.110
	.6870	-.090
	.7350	-.055
	.7845	-.025
	.8310	-.065
	.8795	.005
	.9275	.115
St'bd hull	.7600	-.040
	.8075	-.085
	.8550	-.025
	.9045	.065
	.9520	.185

Station	y/h	U_l/U_∞	q_l/q_∞
Port rake	.0177	.4428	.1960
	.0443	.5546	.3116
	.0797	.6417	.4171
	.1507	.7716	.5930
	.2920	.9411	.8894
	.4340	.9979	1.0050
	.5050	1.0316	1.0704
	.5750	1.0280	1.0653
	.6460	1.0280	1.0653
	.7180	1.0280	1.0653
	.7890	1.0280	1.0653
	.8590	1.0577	1.1256
	.9300	1.0548	1.1206
	1.0000	1.0494	1.1055
St'bd rake	.0177	.6171	.3819
	.0443	.7396	.5528
	.0797	.8069	.6583
	.1507	.9377	.8844
	.2920	1.0376	1.0804
	.4340	1.0400	1.0905
	.5050	1.0429	1.0955
	.5750	1.0429	1.0955
	.6460	1.0429	1.0955
	.7180	1.0429	1.0955
	.7890	1.0429	1.0955
	.8590	1.0429	1.0955
	.9300	1.0464	1.1005
	1.0000	1.0494	1.1055

Station	z/h	U_l/U_∞	q_l/q_∞
Wake rake	.0000	.6400	.4088
	.0833	.9476	.8958
	.1667	1.1614	1.3458
	.2081	1.1412	1.2995
	.2500	.9891	.9761
	.2919	.9002	.8083
	.3338	.9138	.8330
	.3750	.9459	.8928
	.4170	.9675	.9340
	.4580	.9744	.9473
	.5000	.9728	.9443
	.5420	.9723	.9432
	.5830	.9749	.9484
	.6250	.9943	.9864
	.6670	.9948	.9875
	.7080	.9922	.9823
	.7500	.9979	.9936
	.7900	.9948	.9875
	.8333	1.0168	1.0318
	.9170	1.0168	1.0318
	1.0000	1.0224	1.0431

TABLE 7 Continued

CHORDWISE PRESSURE-DISTRIBUTION, BOUNDARY-LAYER, AND WAKE CHARACTERISTICS OF THE MODEL WITH PROPELLER 2 INSTALLED WITH $\beta = 30°$

(M) $n = 103.33$ rps $\frac{U_\infty}{nD} = .653$ $\alpha = -.5°$

Station	x/l	C_p
Port hull	.0144	.611
	.0625	.005
	.1107	-.116
	.1587	-.151
	.2068	-.165
	.2545	-.176
	.3025	-.176
	.3510	-.176
	.3985	-.181
	.4470	-.181
	.4950	-.156
	.5430	-.136
	.5910	-.106
	.6390	-.101
	.6870	-.075
	.7350	-.045
	.7845	-.015
	.8310	-.060
	.8795	.005
	.9275	.116
St'bd hull	.7600	-.015
	.8075	-.065
	.8550	-.015
	.9045	.050
	.9520	.166

Station	y/h	U_l/U_∞	q_l/q_∞
Port rake	.0177	.4315	.1869
	.0443	.5568	.3131
	.0797	.6254	.3939
	.1507	.7632	.5859
	.2920	.9414	.8889
	.4340	.9924	.9899
	.5050	1.0234	1.0505
	.5750	1.0204	1.0455
	.6460	1.0234	1.0505
	.7180	1.0168	1.0404
	.7890	1.0168	1.0404
	.8590	1.0416	1.0909
	.9300	1.0355	1.0758
	1.0000	1.0355	1.0758
St'bd rake	.0177	.5938	.3535
	.0443	.7219	.5202
	.0797	.7793	.6111
	.1507	.8972	.8081
	.2920	1.0204	1.0455
	.4340	1.0295	1.0657
	.5050	1.0385	1.0808
	.5750	1.0295	1.0657
	.6460	1.0321	1.0707
	.7180	1.0295	1.0657
	.7890	1.0355	1.0758
	.8590	1.0321	1.0707
	.9300	1.0355	1.0758
	1.0000	1.0416	1.0859

Station	z/h	U_l/U_∞	q_l/q_∞
Wake rake	.0000	.7226	.5209
	.0833	.9551	.9100
	.1667	1.2119	1.4651
	.2081	1.2398	1.5336
	.2500	1.1298	1.2732
	.2919	.9930	.9837
	.3338	.9497	.8997
	.3750	.9718	.9421
	.4170	.9544	.9090
	.4580	.9610	.9214
	.5000	.9626	.9245
	.5420	.9648	.9287
	.5830	.9675	.9339
	.6250	.9924	.9827
	.6670	.9924	.9827
	.7080	.9893	.9764
	.7500	.9924	.9827
	.7900	.9898	.9775
	.8333	1.0178	1.0335
	.9170	1.0188	1.0355
	1.0000	1.0193	1.0366

TABLE 7 Continued

CHORDWISE PRESSURE-DISTRIBUTION, BOUNDARY-LAYER, AND WAKE CHARACTERISTICS OF THE MODEL WITH PROPELLER 2 INSTALLED WITH $\beta = 30°$

(n) $n = 113.29$ rps $\frac{U_\infty}{nD} = .597$ $\alpha = -.5°$

Station	x/l	C_p
Port hull	.0144	.616
	.0625	.010
	.1107	-.141
	.1587	-.171
	.2068	-.180
	.2545	-.200
	.3025	-.207
	.3510	-.181
	.3985	-.181
	.4470	-.186
	.4950	-.166
	.5430	-.156
	.5910	-.130
	.6390	-.111
	.6870	-.088
	.7350	-.060
	.7845	-.035
	.8310	-.060
	.8795	.000
	.9275	.101
St'bd hull	.7600	-.040
	.8075	-.090
	.8550	-.030
	.9045	.040
	.9520	.156

Station	y/h	U_l/U_∞	q_l/q_∞
Port rake	.0177	.4368	.1919
	.0443	.5615	.3182
	.0797	.6489	.4242
	.1507	.7782	.6111
	.2920	.9627	.9343
	.4340	1.0040	1.0152
	.5050	1.0370	1.0808
	.5750	1.0370	1.0808
	.6460	1.0305	1.0707
	.7180	1.0340	1.0758
	.7890	1.0305	1.0707
	.8590	1.0489	1.1061
	.9300	1.0519	1.1111
	1.0000	1.0425	1.0960
St'bd rake	.0177	.6041	.3687
	.0443	.7378	.5505
	.0797	.8089	.6566
	.1507	.9399	.8889
	.2920	1.0400	1.0909
	.4340	1.0400	1.0859
	.5050	1.0454	1.1010
	.5750	1.0489	1.1061
	.6460	1.0400	1.0909
	.7180	1.0454	1.1010
	.7890	1.0454	1.1010
	.8590	1.0454	1.1010
	.9300	1.0519	1.1111
	1.0000	1.0519	1.1111

Station	z/h	U_l/U_∞	q_l/q_∞
Wake rake	.0000	.7828	.6115
	.0833	1.0848	1.1743
	.1667	1.3506	1.8200
	.2081	1.2638	1.5934
	.2500	1.0680	1.1381
	.2919	.9559	.9115
	.3338	.9388	.8795
	.3750	.9627	.9249
	.4170	.9548	.9095
	.4580	.9607	.9208
	.5000	.9622	.9240
	.5420	.9607	.9208
	.5830	.9622	.9240
	.6250	.9909	.9799
	.6670	.9909	.9799
	.7080	.9893	.9767
	.7500	.9893	.9767
	.7900	.9915	.9808
	.8333	1.0209	1.0398
	.9170	1.0203	1.0388
	1.0000	1.0203	1.0388

TABLE 7 Continued

CHORDWISE PRESSURE-DISTRIBUTION, BOUNDARY-LAYER, AND WAKE CHARACTERISTICS OF THE MODEL WITH PROPELLER 2 INSTALLED WITH $\beta = 30$

(o) n = 123.33 rps $\frac{U_\infty}{nD}$ = .546 α = -.5

Station	x/l	C_p
Port hull	.0144	.611
	.0625	-.015
	.1107	-.145
	.1587	-.171
	.2068	-.217
	.2545	-.215
	.3025	-.212
	.3510	-.196
	.3985	-.196
	.4470	-.196
	.4950	-.171
	.5430	-.150
	.5910	-.124
	.6390	-.114
	.6870	-.089
	.7350	-.062
	.7845	-.046
	.8310	-.062
	.8795	-.010
	.9275	.082
St'bd hull	.7600	-.046
	.8075	-.103
	.8550	-.041
	.9045	.041
	.9520	.145

Station	y/h	U_l/U_∞	q_l/q_∞
Port rake	.0177	.4541	.2124
	.0443	.5238	.2798
	.0797	.6464	.4301
	.1507	.7773	.6166
	.2920	.9479	.9223
	.4340	1.0114	1.0466
	.5050	1.0269	1.0777
	.5750	1.0238	1.0725
	.6460	1.0269	1.0777
	.7180	1.0203	1.0674
	.7890	1.0203	1.0674
	.8590	1.0451	1.1192
	.9300	1.0451	1.1192
	1.0000	1.0451	1.1192
St'bd rake	.0177	.5958	.3627
	.0443	.7243	.5389
	.0797	.7972	.6528
	.1507	.9311	.8860
	.2920	1.0420	1.1088
	.4340	1.0355	1.0984
	.5050	1.0420	1.1088
	.5750	1.0451	1.1140
	.6460	1.0420	1.1088
	.7180	1.0451	1.1140
	.7890	1.0451	1.1140
	.8590	1.0451	1.1140
	.9300	1.0451	1.1140
	1.0000	1.0475	1.1244

Station	z/h	U_l/U_∞	q_l/q_∞
Wake rake	.0000	.8402	.7041
	.0833	1.1836	1.3978
	.1667	1.4554	2.1135
	.2081	1.3025	1.6924
	.2500	1.0401	1.0792
	.2919	.9357	.8733
	.3338	.9322	.8671
	.3750	.9577	.9151
	.4170	.9538	.9078
	.4580	.9583	.9162
	.5000	.9605	.9204
	.5420	.9594	.9183
	.5830	.9633	.9256
	.6250	.9889	.9758
	.6670	.9926	.9831
	.7080	.9885	.9747
	.7500	.9905	.9789
	.7900	.9905	.9789
	.8333	1.0160	1.0301
	.9170	1.0182	1.0343
	1.0000	1.0160	1.0301

TABLE 7 Concluded

CHORDWISE PRESSURE-DISTRIBUTION, BOUNDARY-LAYER, AND WAKE CHARACTERISTICS OF THE MODEL WITH PROPELLER 2 INSTALLED WITH $\beta = 30°$

(p) $n = 133.33$ rps $\frac{U_\infty}{nD} = .503$ $\alpha = -.5°$

Station	x/l	C_p
Port hull	.0144	.596
	.0625	-.010
	.1107	-.127
	.1587	-.163
	.2068	-.204
	.2545	-.205
	.3025	-.204
	.3510	-.188
	.3985	-.183
	.4470	-.188
	.4950	-.163
	.5430	-.148
	.5910	-.117
	.6390	-.112
	.6870	-.084
	.7350	-.051
	.7845	-.051
	.8310	-.071
	.8795	-.010
	.9275	.086
St'bd hull	.7600	-.040
	.8075	-.081
	.8550	-.040
	.9045	.040
	.9520	.117

Station	y/h	U_1/U_∞	q_1/q_∞
Port rake	.0177	.4555	.2092
	.0443	.5769	.3316
	.0797	.6579	.4337
	.1507	.7843	.6173
	.2920	.9638	.9286
	.4340	1.0206	1.0408
	.5050	1.0420	1.0867
	.5750	1.0385	1.0816
	.6460	1.0385	1.0816
	.7180	1.0329	1.0714
	.7890	1.0299	1.0612
	.8590	1.0571	1.1173
	.9300	1.0601	1.1224
	1.0000	1.0420	1.0867
St'bd rake	.0177	.5923	.3520
	.0443	.7344	.5408
	.0797	.8081	.6531
	.1507	.9237	.8520
	.2920	1.0359	1.0765
	.4340	1.0452	1.0918
	.5050	1.0536	1.1122
	.5750	1.0507	1.1071
	.6460	1.0507	1.1071
	.7180	1.0507	1.1071
	.7890	1.0507	1.1071
	.8590	1.0482	1.1020
	.9300	1.0482	1.1020
	1.0000	1.0482	1.1020

Station	z/h	U_1/U_∞	q_1/q_∞
Wake rake			

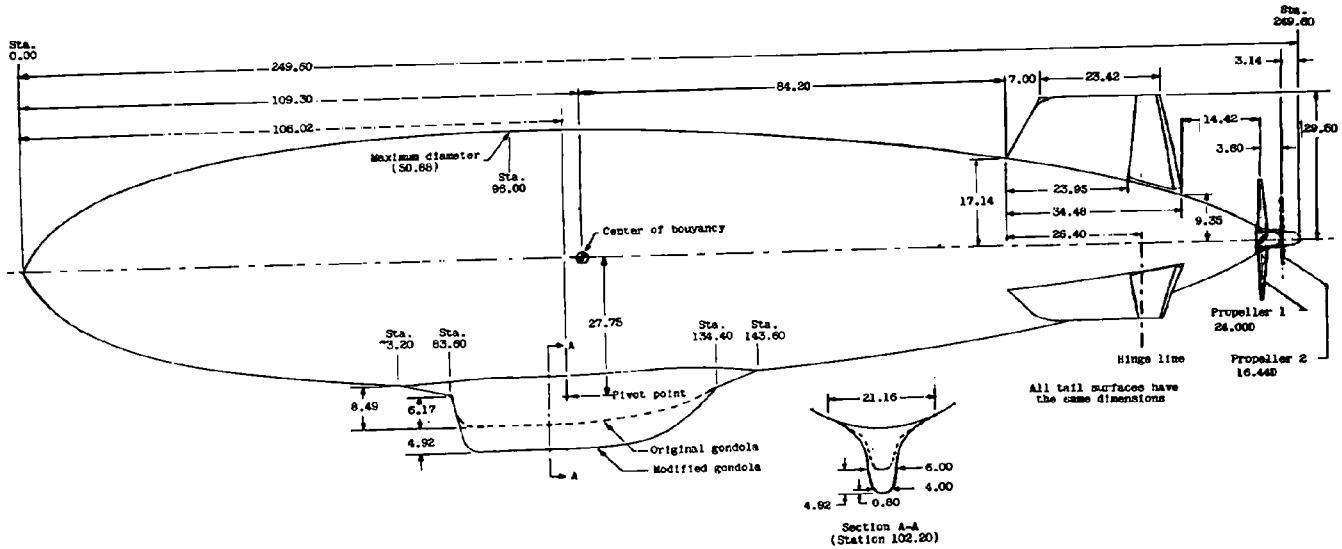
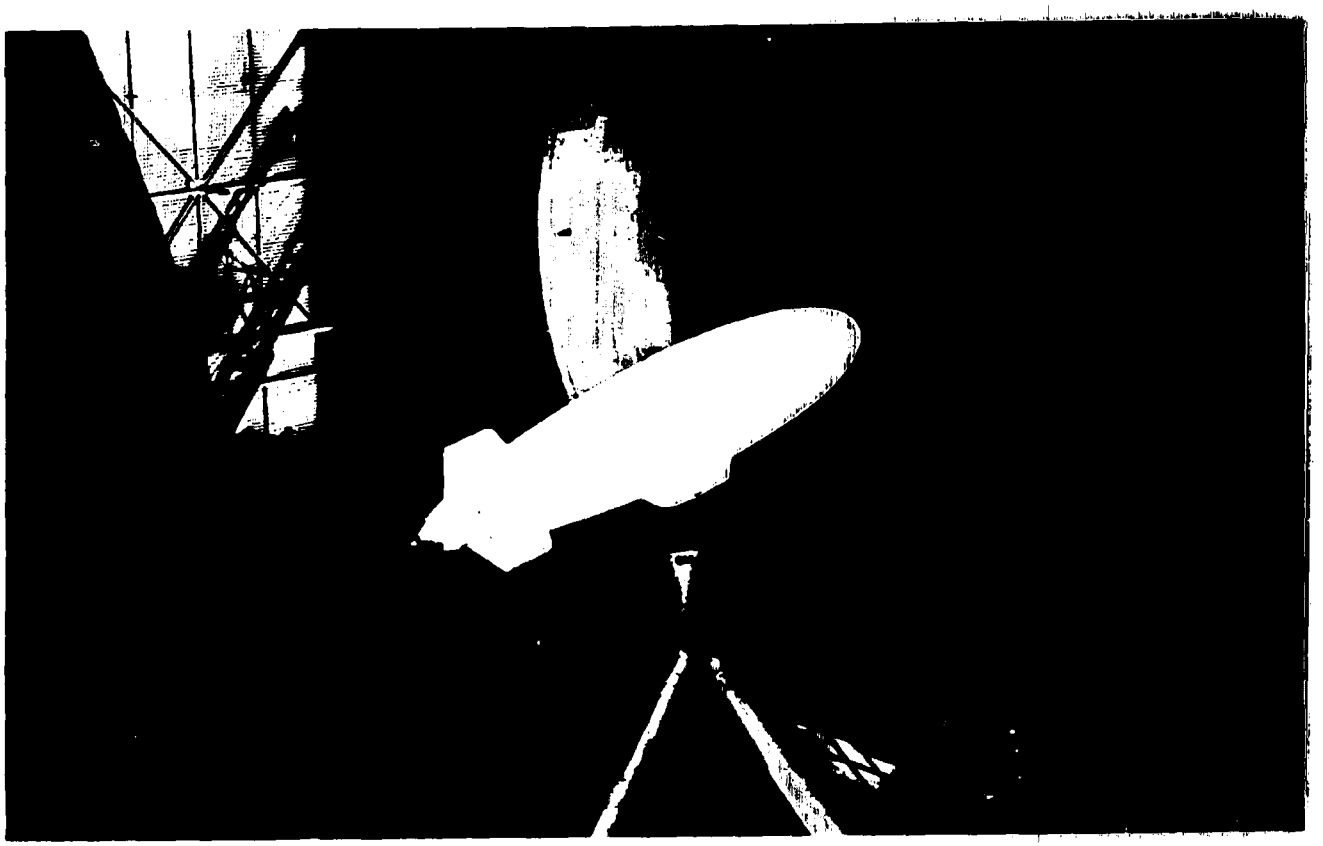


Figure 1.- General dimensions of the hull, gondola, and tail surfaces. All dimensions are in inches.



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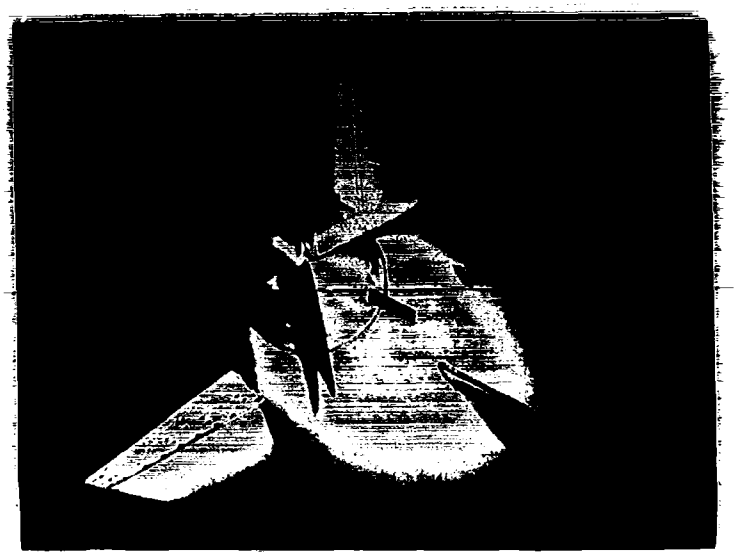
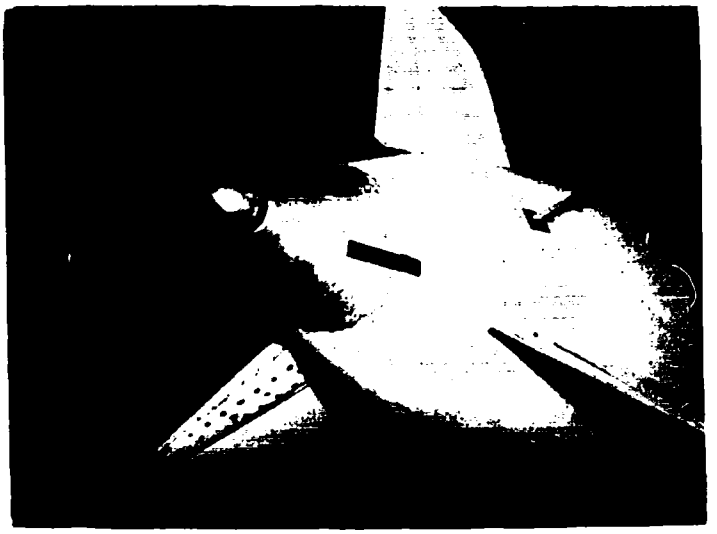
(a) Three-quarter rear view of the airship model mounted for tests in the Langley full-scale tunnel. Propeller 1 configuration.

Figure 2.- Photographs of the model.



(b) Propeller 1 installation. L-60-419

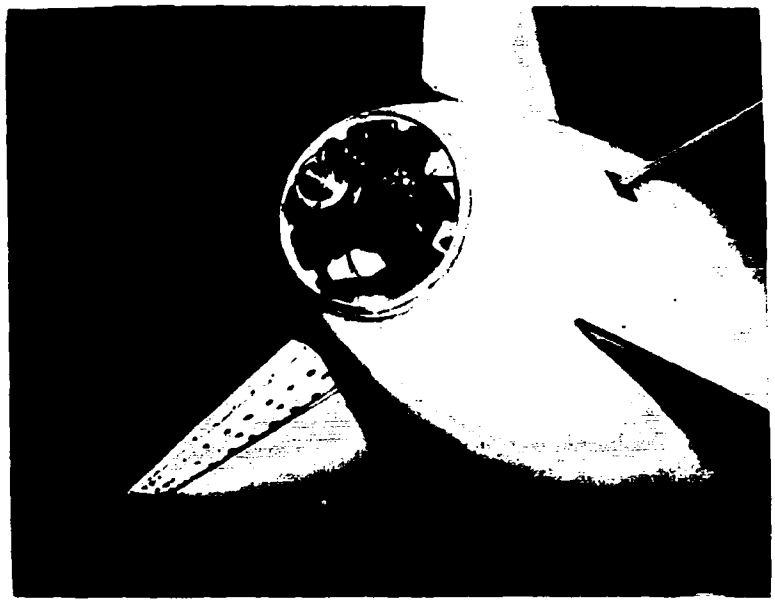


(c) Propeller 2 installation. L-60-422

Figure 2.- Continued.

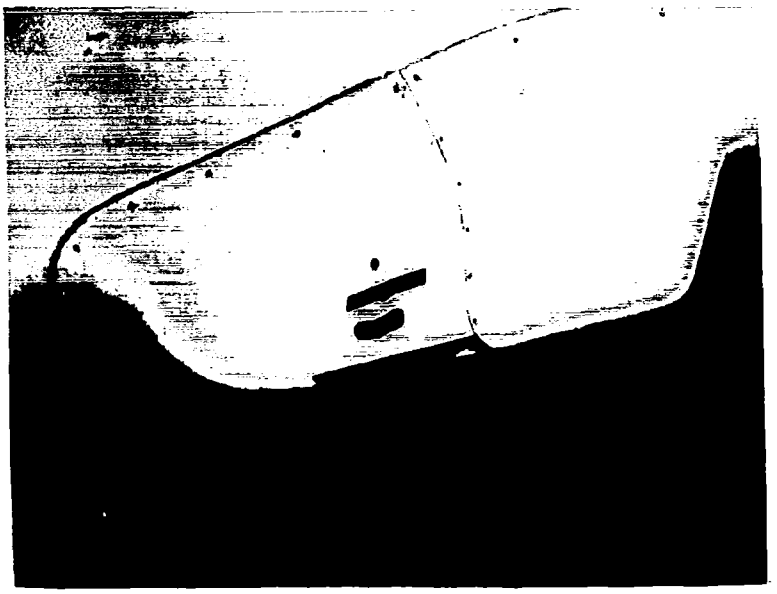
L-60-423

(d) Tandem-motor arrangement and strain-gage balance for propeller 1.



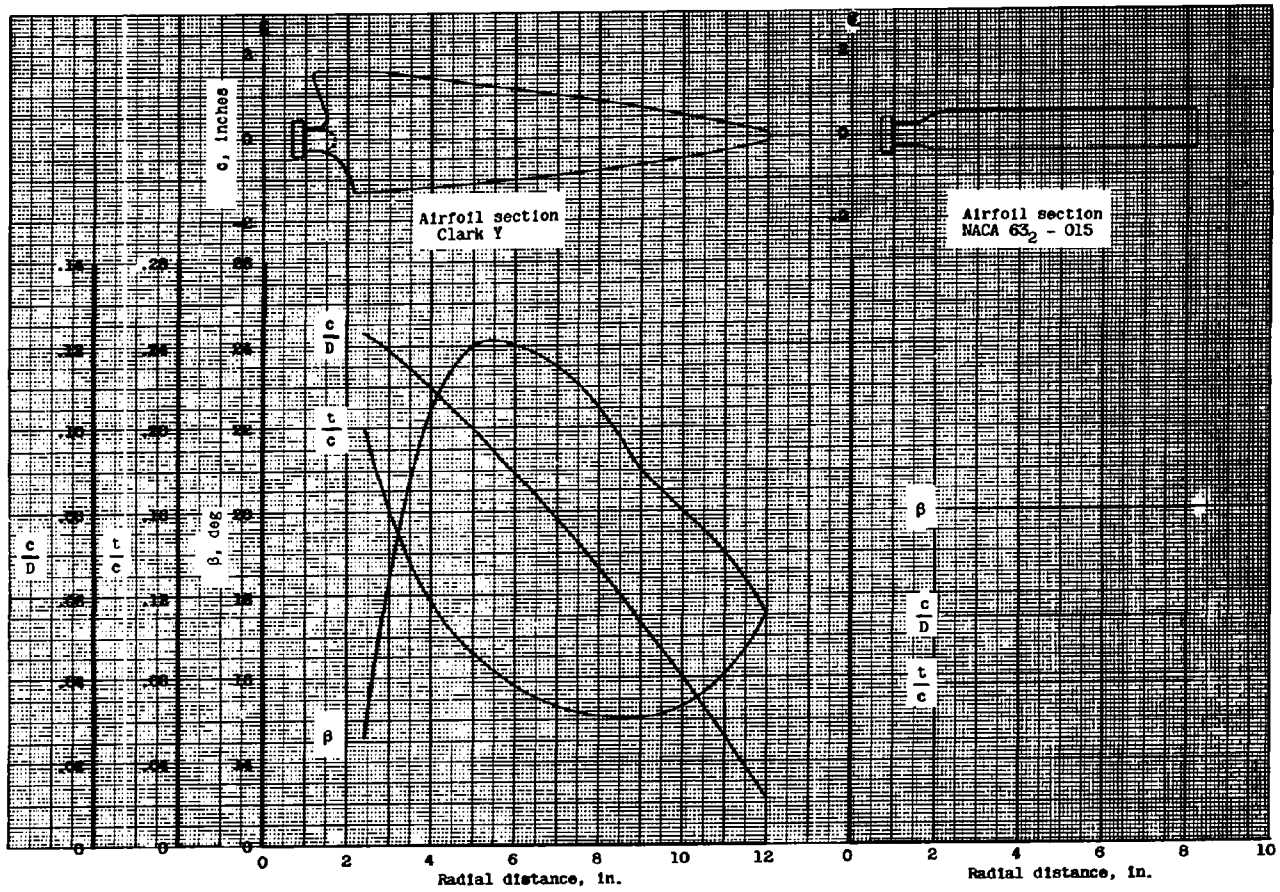
(e) Single model motor and support. L-60-421

Figure 2.- Continued.



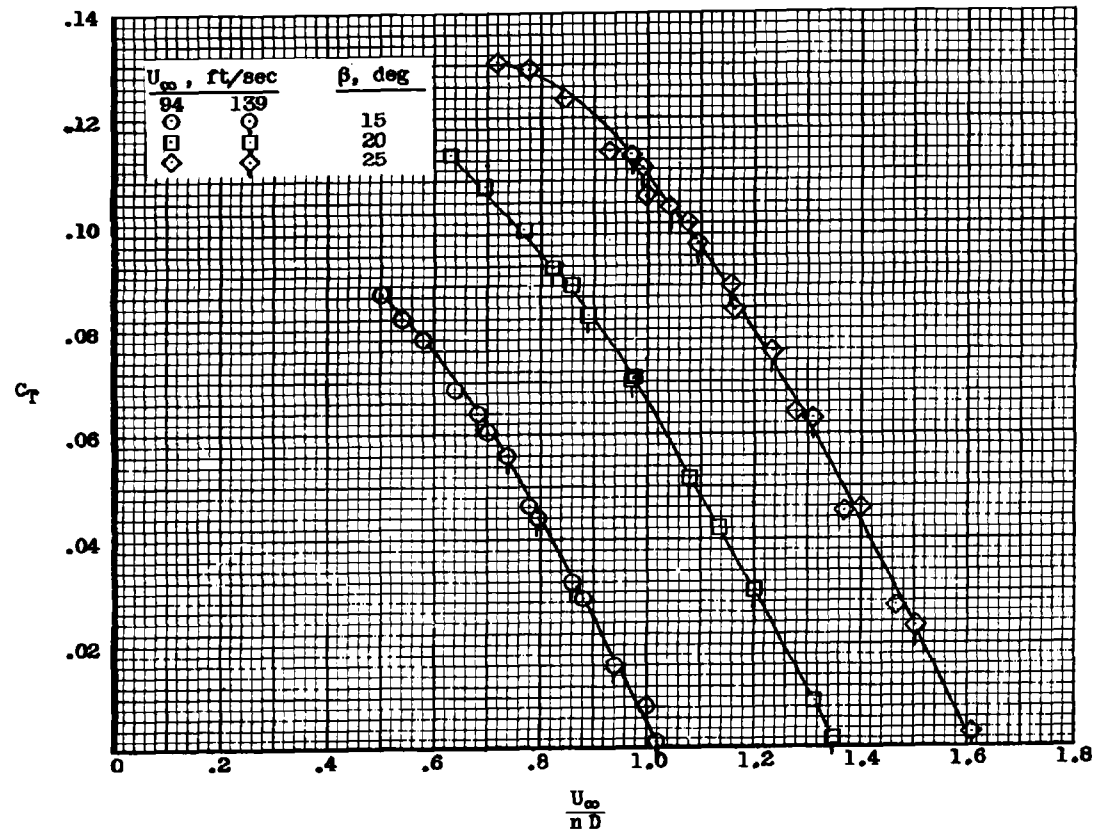
(f) Gondola—support-strut relationship. L-60-420

Figure 2.- Concluded.



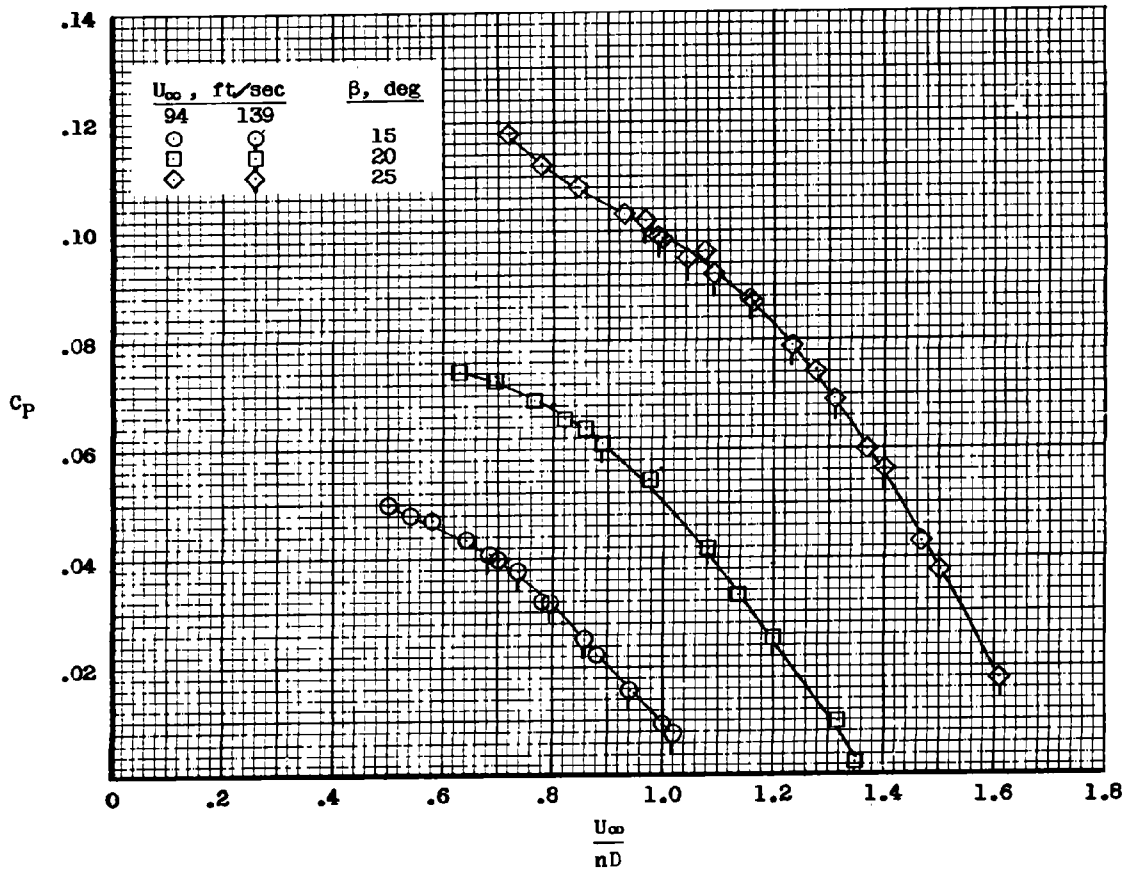
(a) Propeller 1. (b) Propeller 2.

Figure 3.- Propeller blade-form curves.



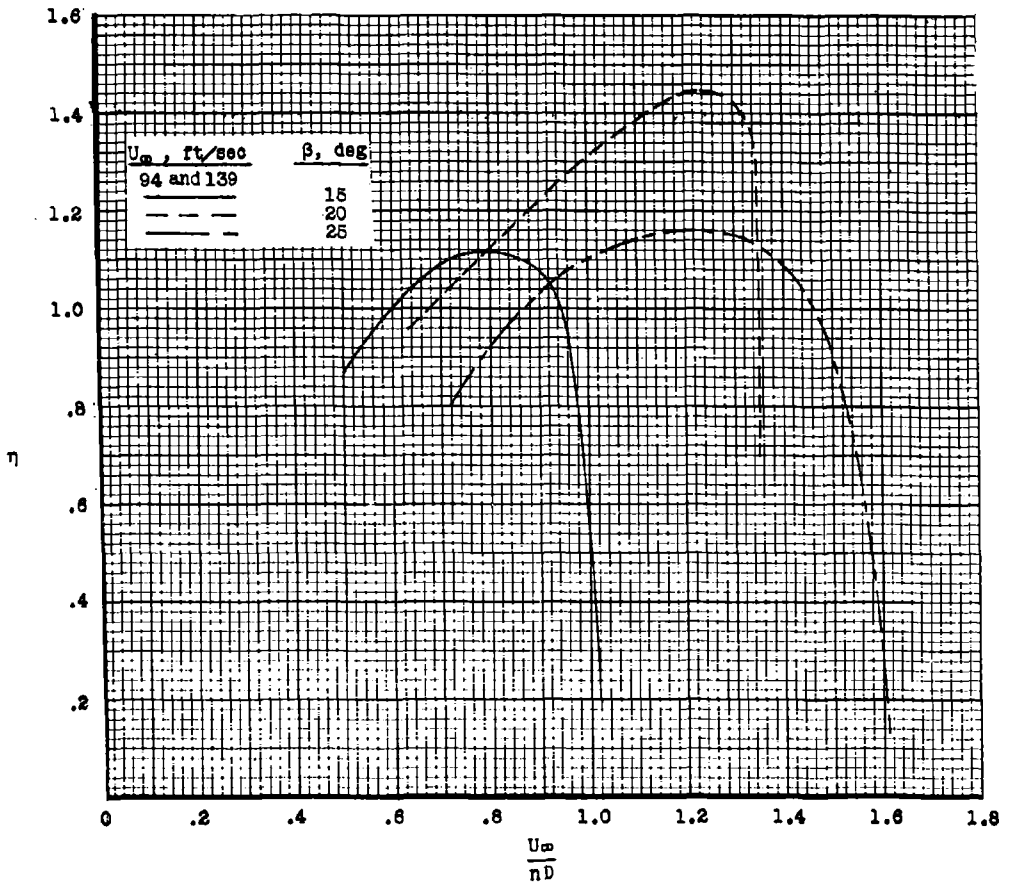
(a) C_T against U_∞/nD.

Figure 4.- Variation of the propeller characteristics and model drag with propeller 1 operating. $\alpha = -0.5^\circ$.



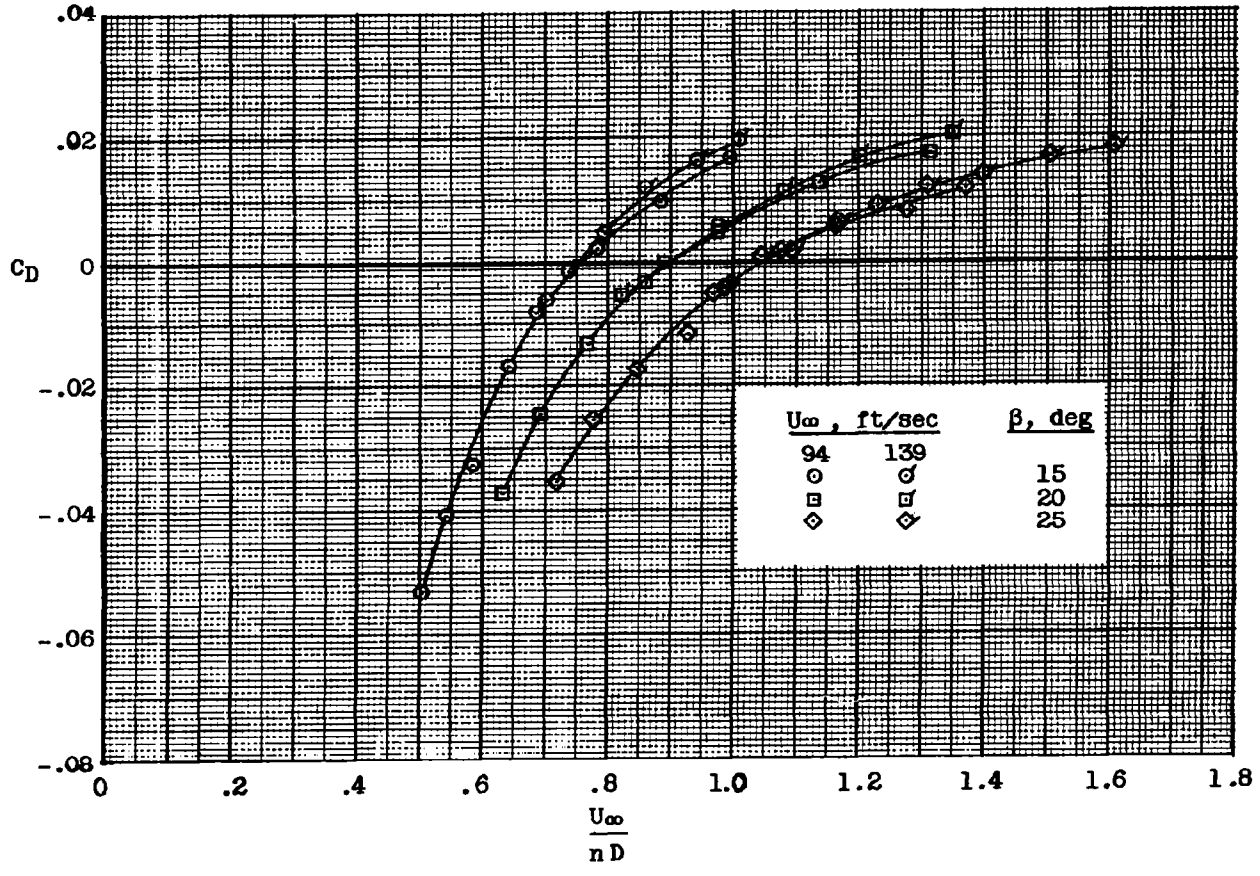
(b) C_P against U_∞/nD.

Figure 4.- Continued.



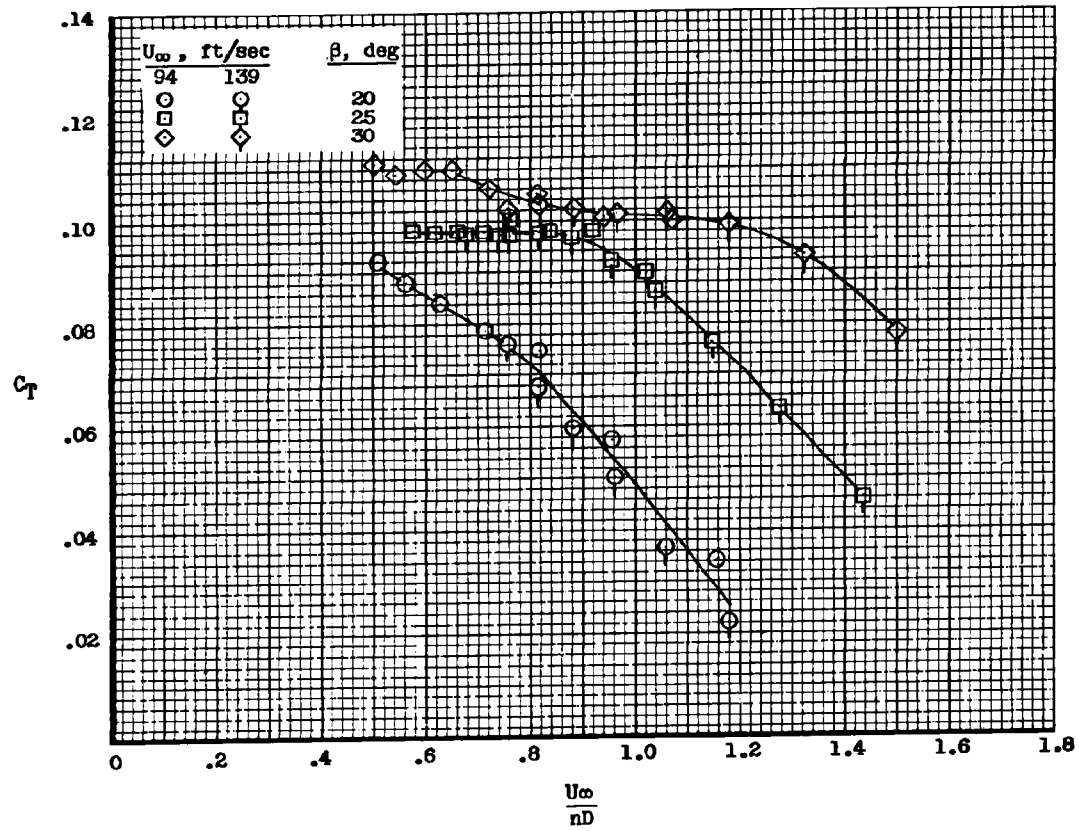
(c) η against U_∞/nD.

Figure 4.- Continued.



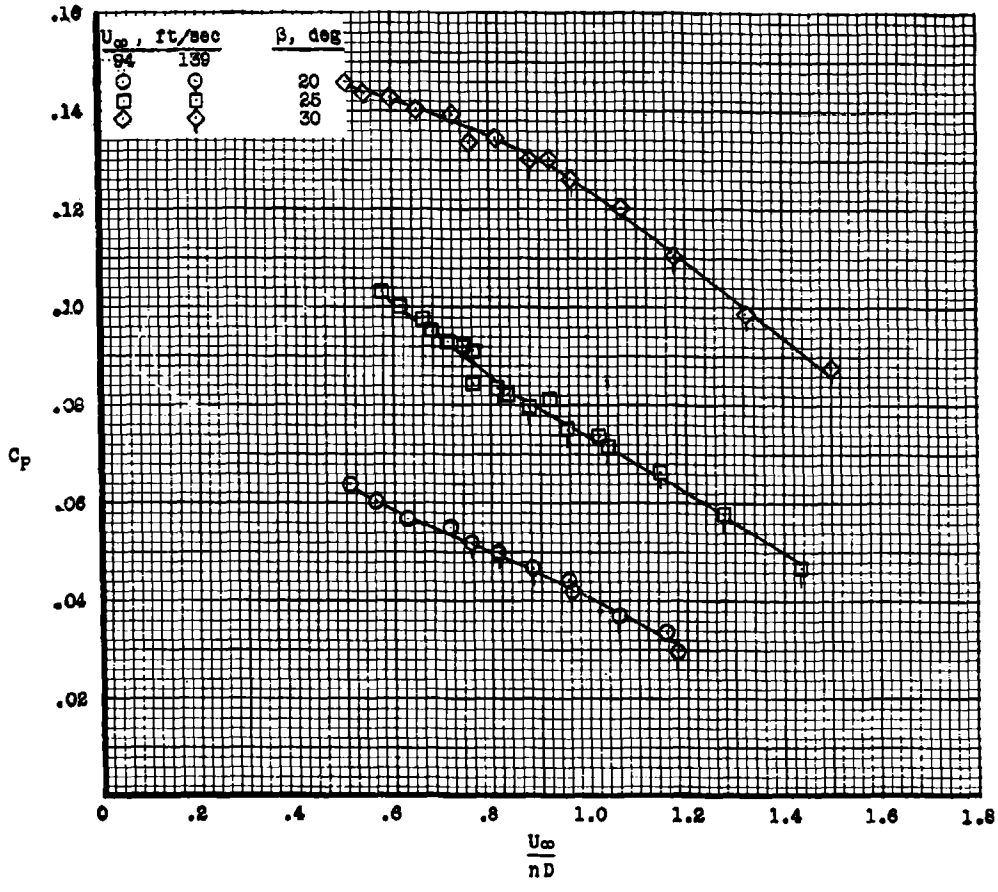
(d) C_D against U_∞/nD.

Figure 4.- Concluded.



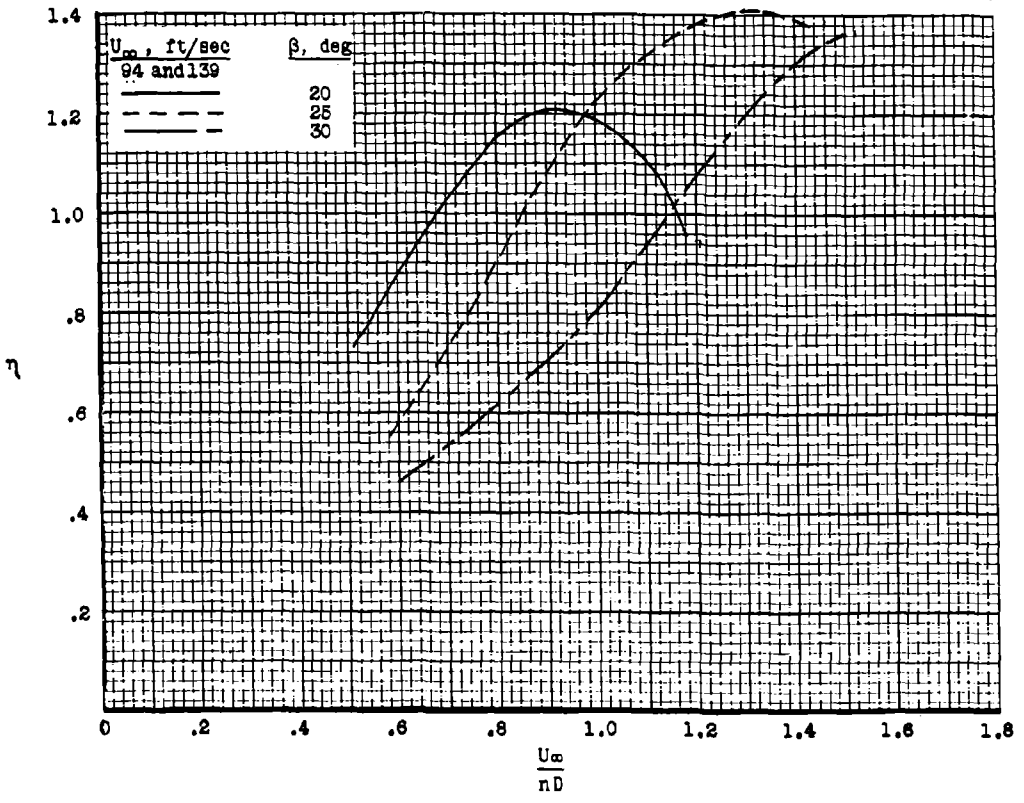
(a) C_T against U_∞/nD.

Figure 5.- Variation of the propeller characteristics and model drag with propeller 2 operating. $\alpha = -0.5^\circ$.



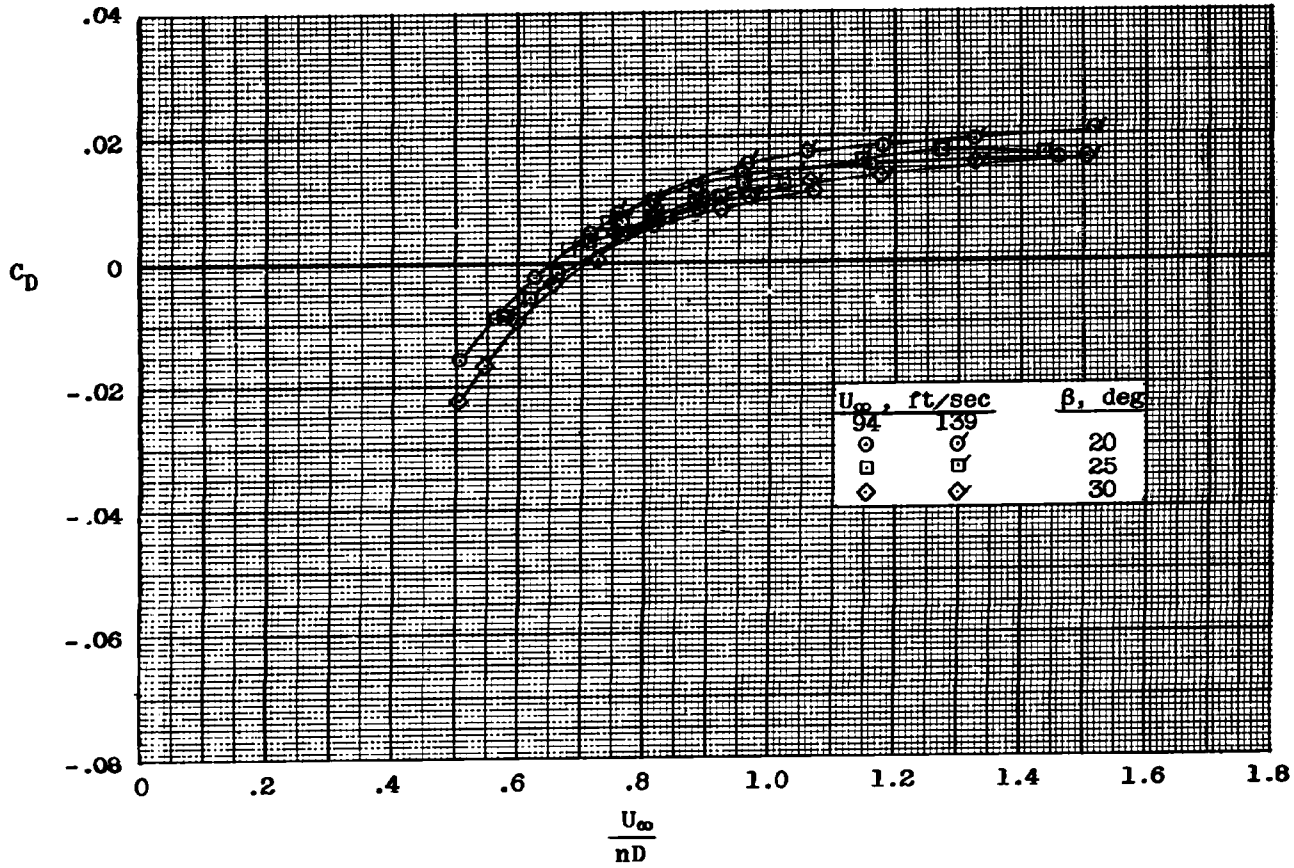
(b) C_P against U_∞/nD.

Figure 5.- Continued.



(c) η against U_∞/nD.

Figure 5.- Continued.



(d) C_D against U_∞/nD.

Figure 5.- Concluded.

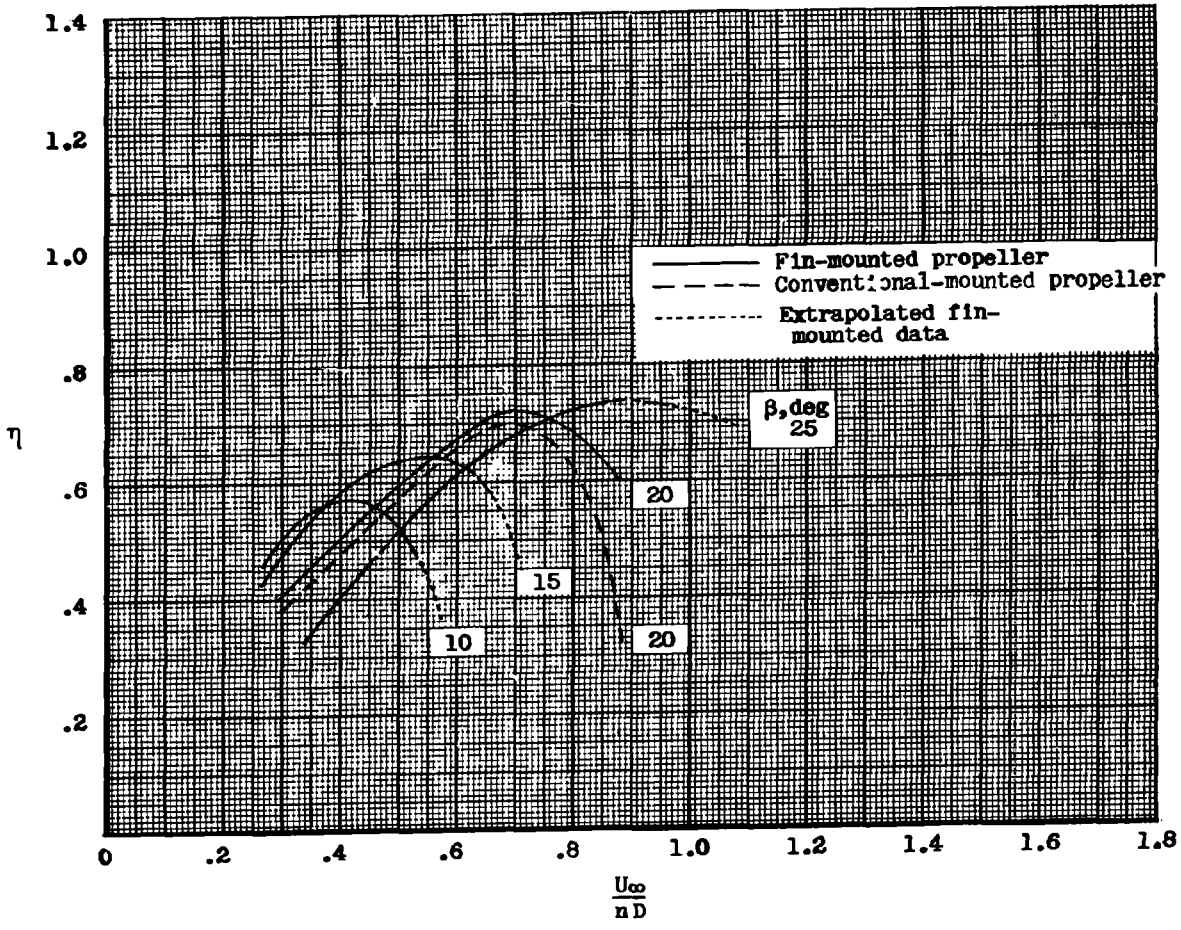
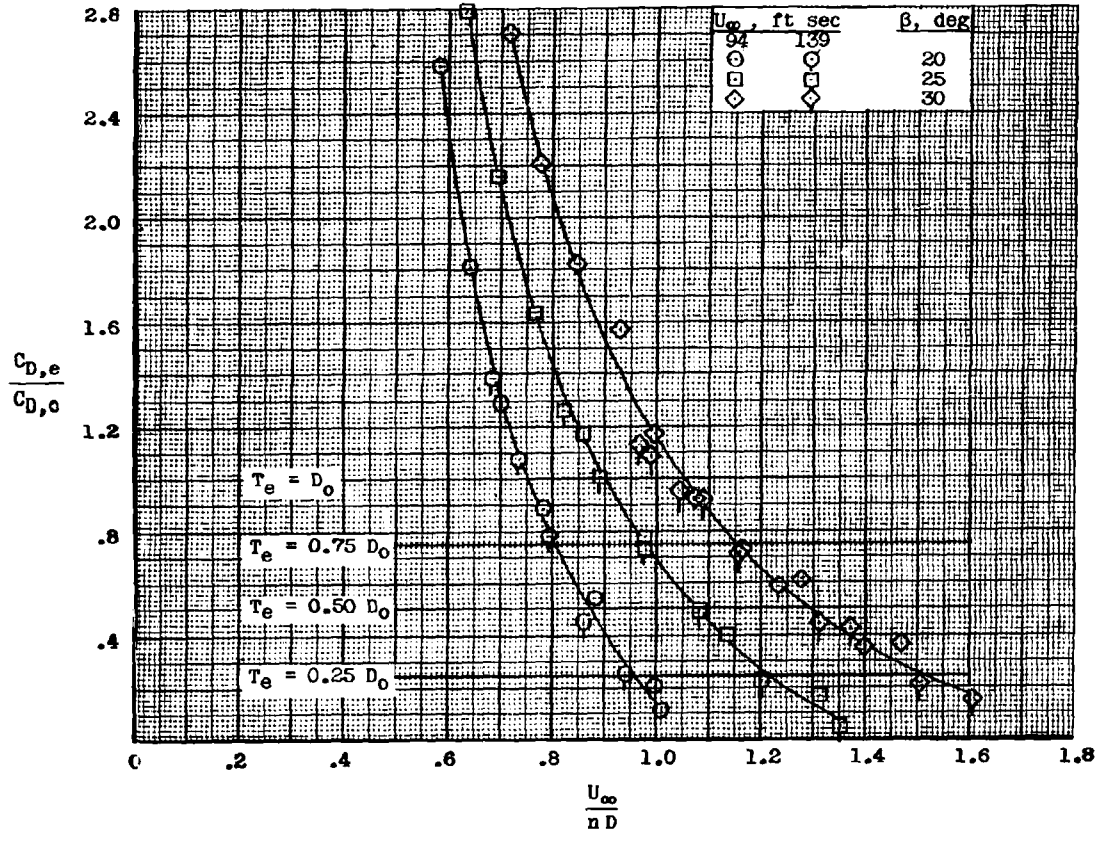
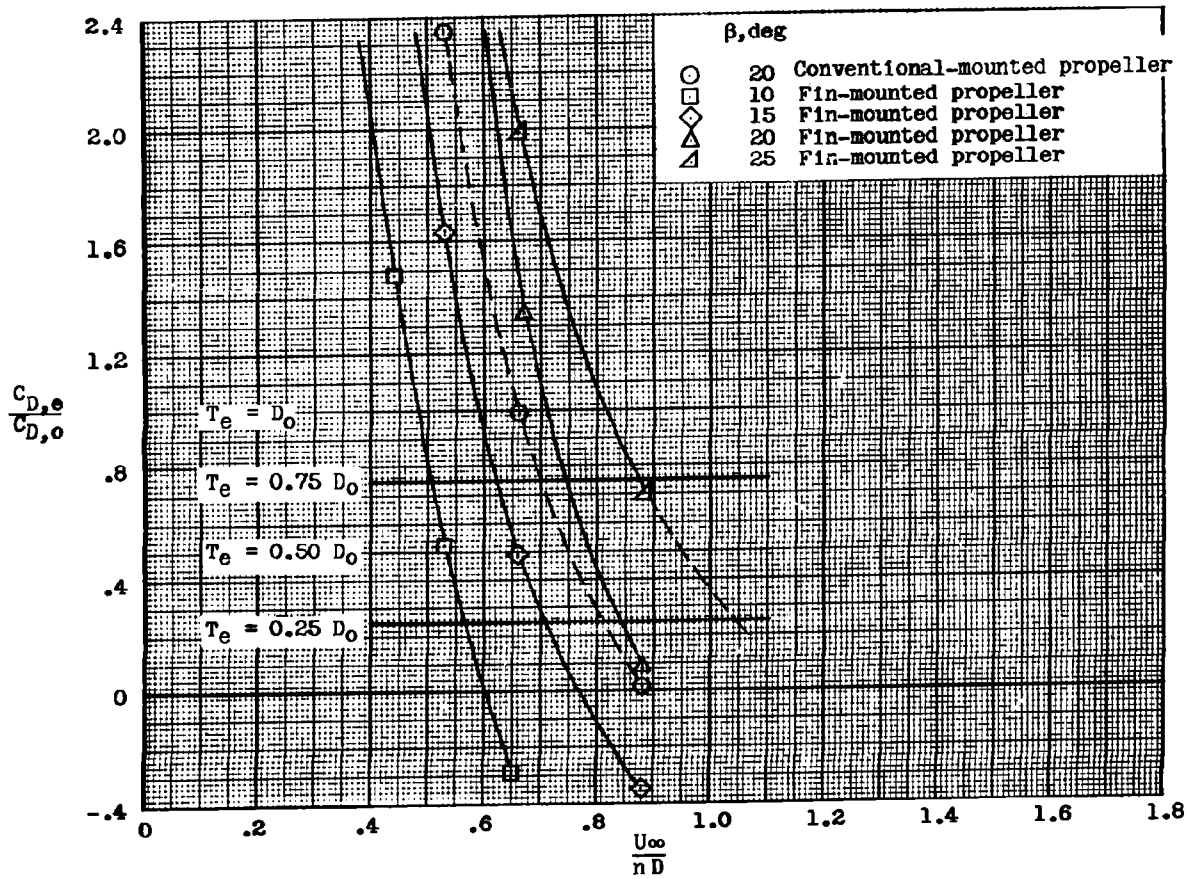


Figure 6.- Variation of the propeller efficiency with U_∞/nD for the conventional-mounted- and fin-mounted-propeller configurations. $\alpha = -0.5^\circ$.



(a) Propeller 1.

Figure 7.- Ratio of the effective drag, propeller operating, to the drag of the basic model with propeller removed. $\alpha = -0.5^\circ$.



(b) Conventional-mounted and fin-mounted propellers.

Figure 7.- Concluded.

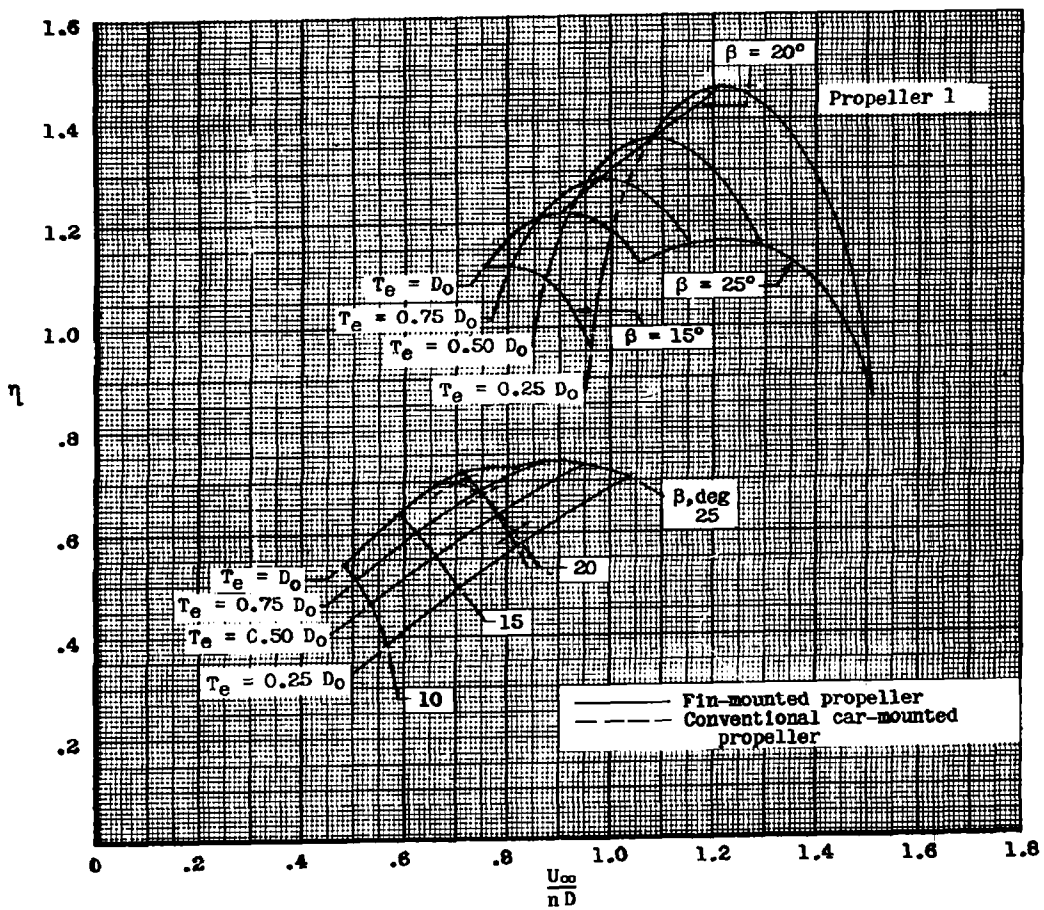


Figure 8.- Variation of the propeller efficiency with advance ratio for propeller 1 and conventional-mounted and fin-mounted propellers. $\alpha = -0.5^\circ$.

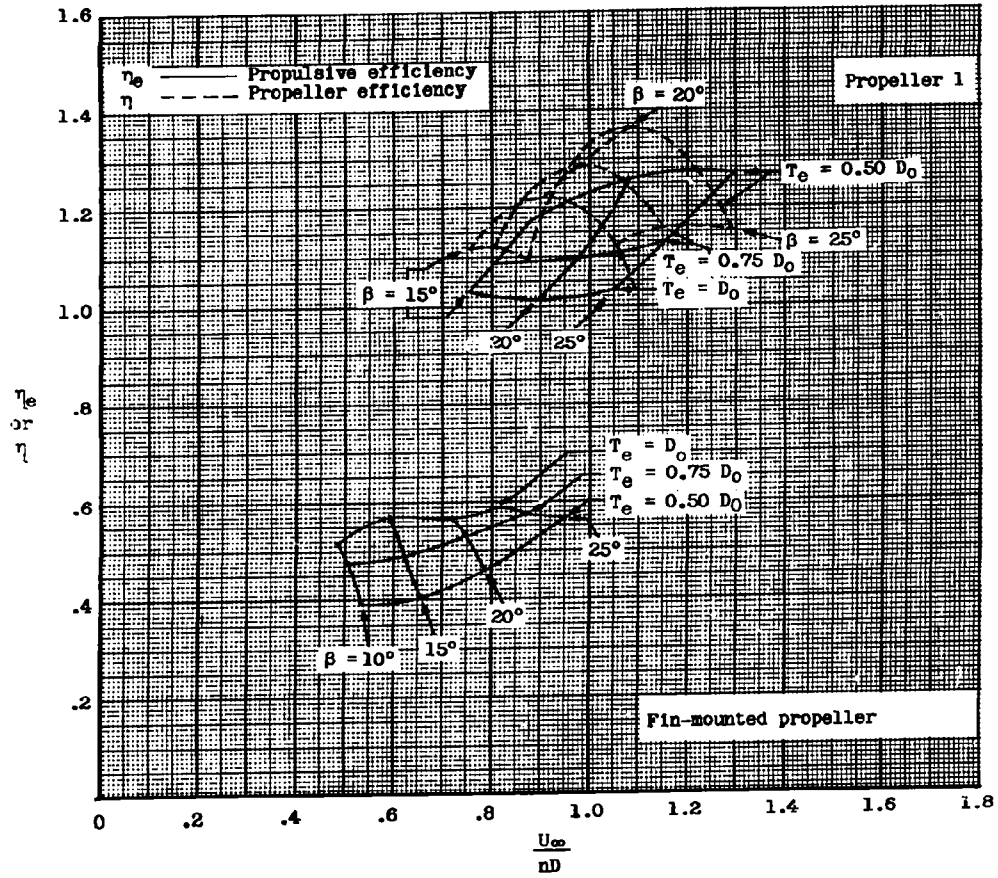
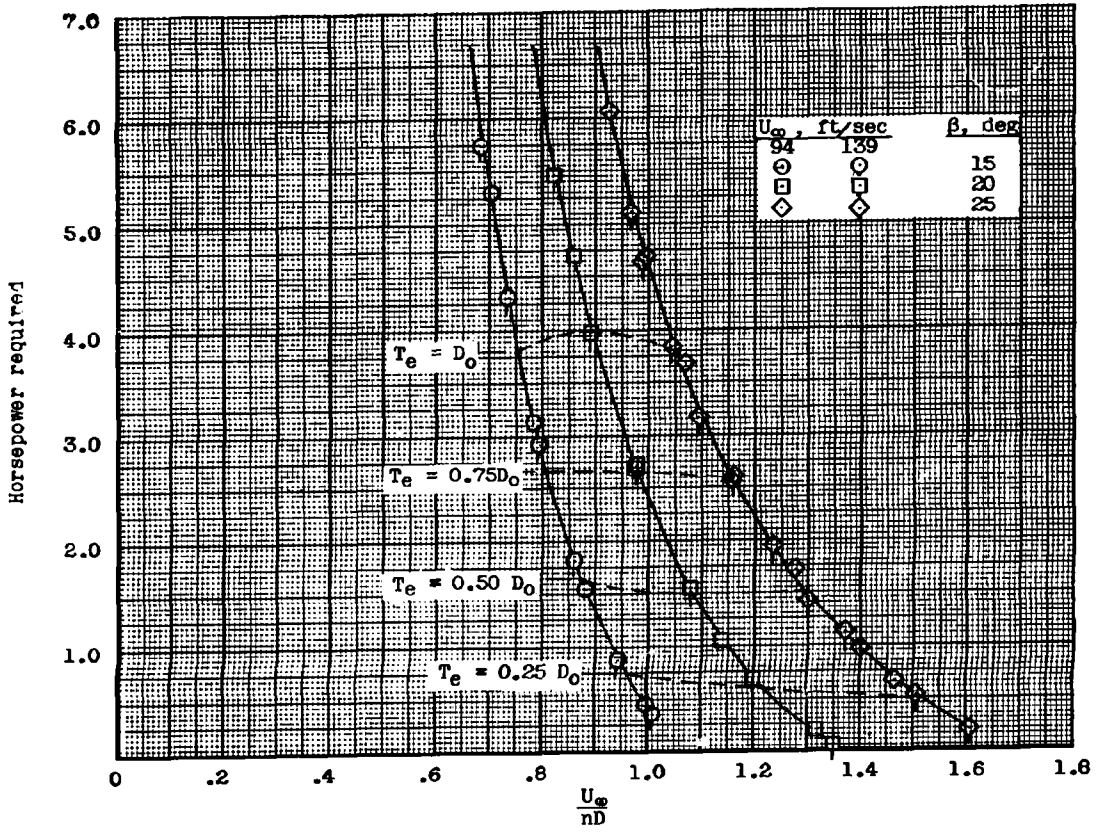
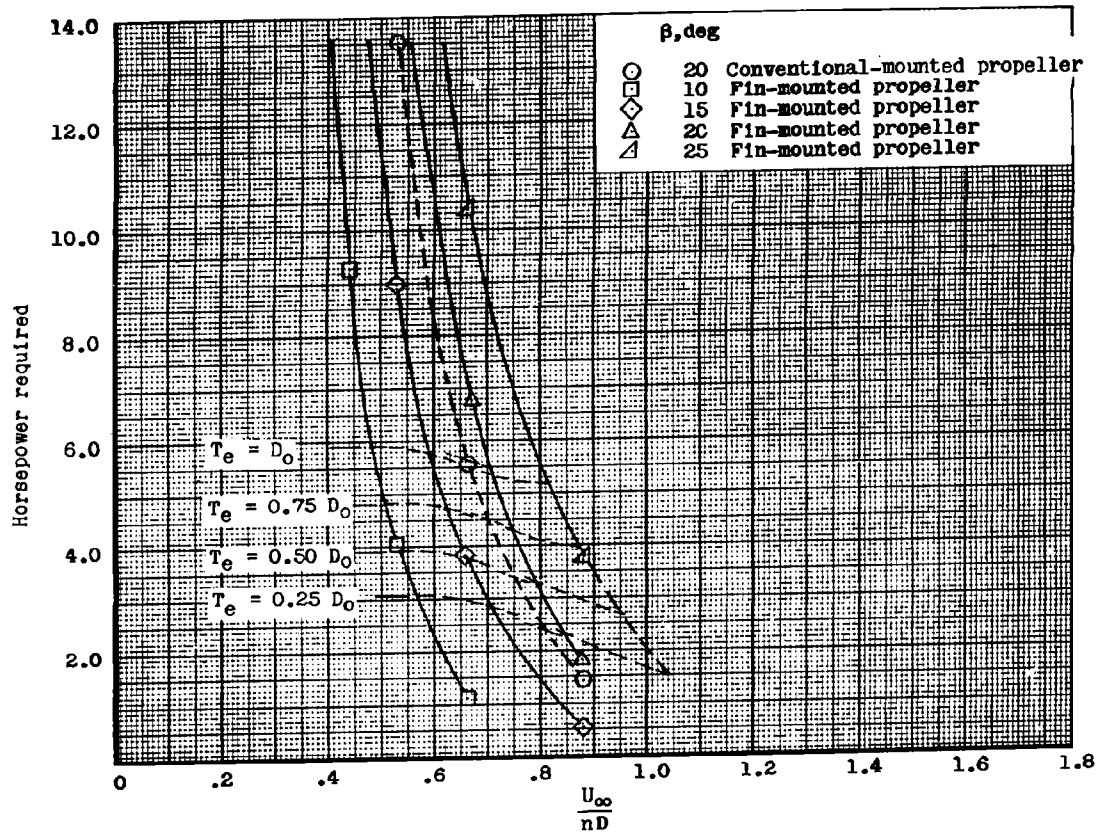


Figure 9.- Variation of the propeller propulsive efficiency with advance ratio for propeller 1 and a fin-mounted propeller. Propeller efficiency of propeller 1 is included for comparison purposes.



(a) Propeller 1.

Figure 10.- Variation of the horsepower required for varied flight conditions for the model with propeller 1 and conventional-mounted or fin-mounted propellers operating.



(b) Conventional-mounted or fin-mounted propeller.

Figure 10.- Concluded.

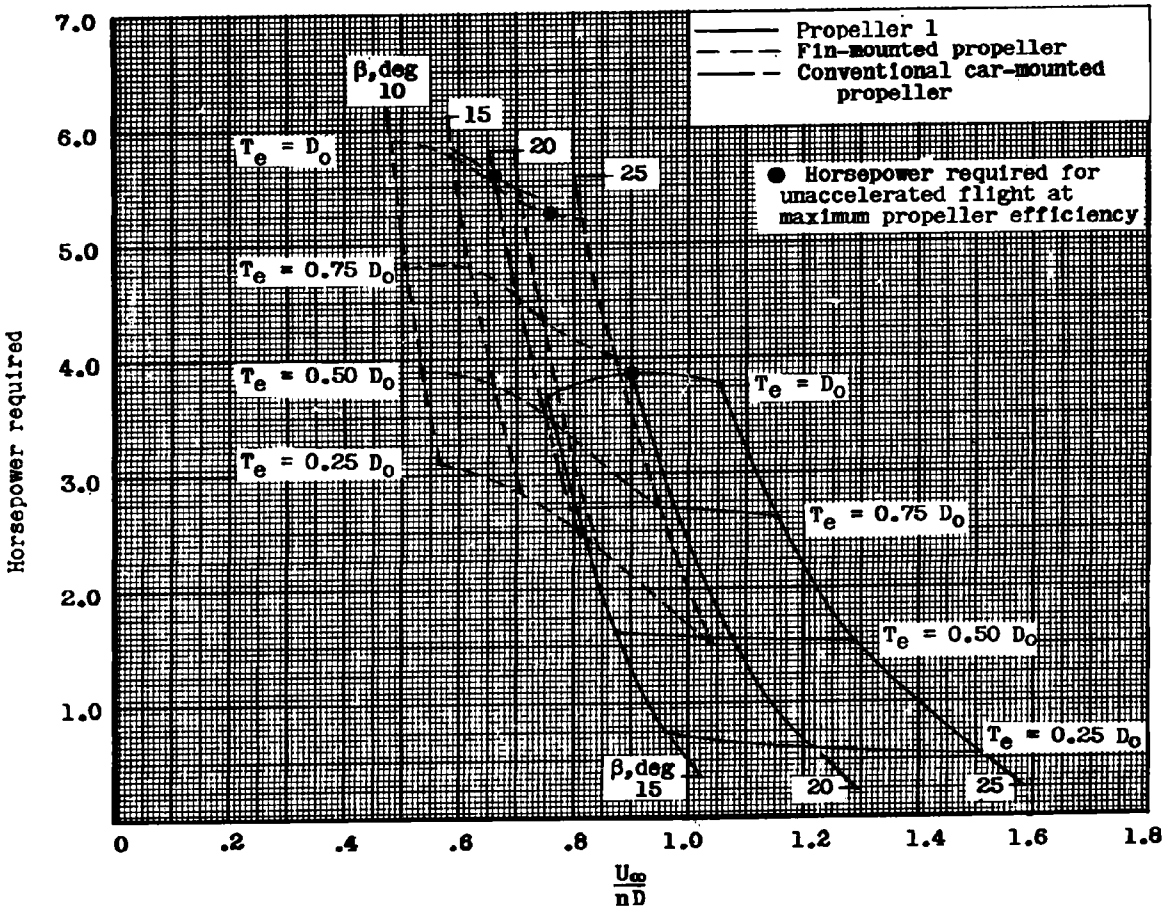
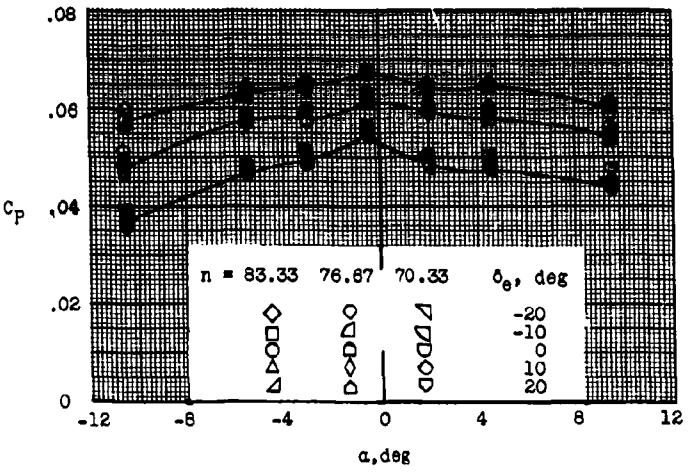
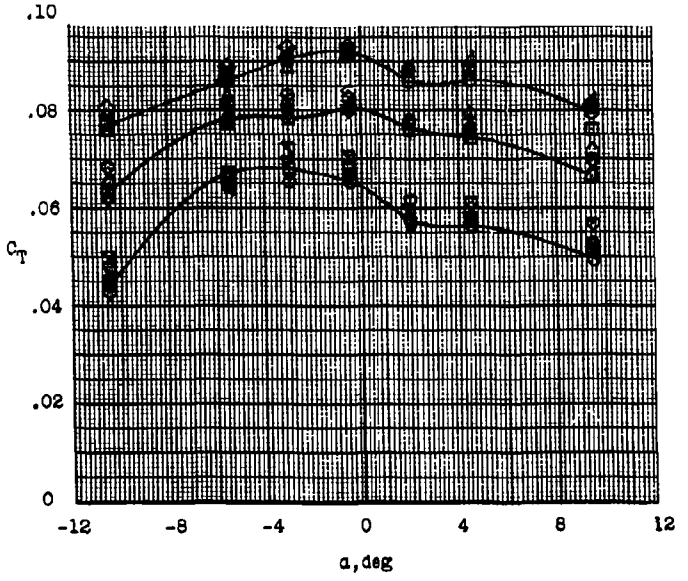


Figure 11.- Comparison of the horsepower required for several flight conditions of the model with propeller 1 and conventional-mounted and fin-mounted propellers operating. $\alpha = -0.5^\circ$.



(a) C_P against α.



(b) C_T against α.

Figure 12.- Variation of thrust and power coefficients with angle of attack for three revolution speeds with and without elevator deflection. Propeller 1 operating at $\beta = 20^\circ$. $U_\infty \approx 140$ ft/sec.

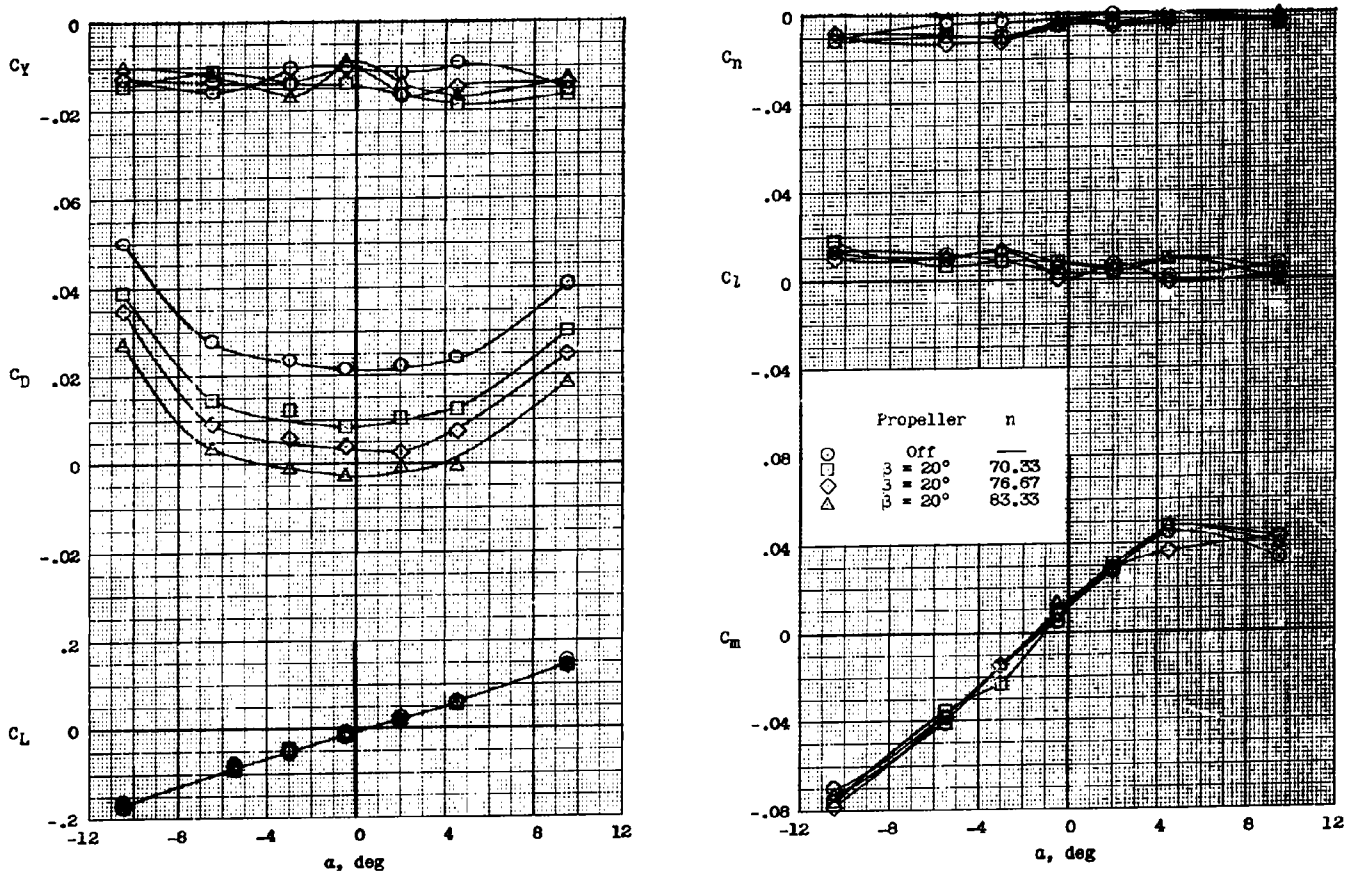
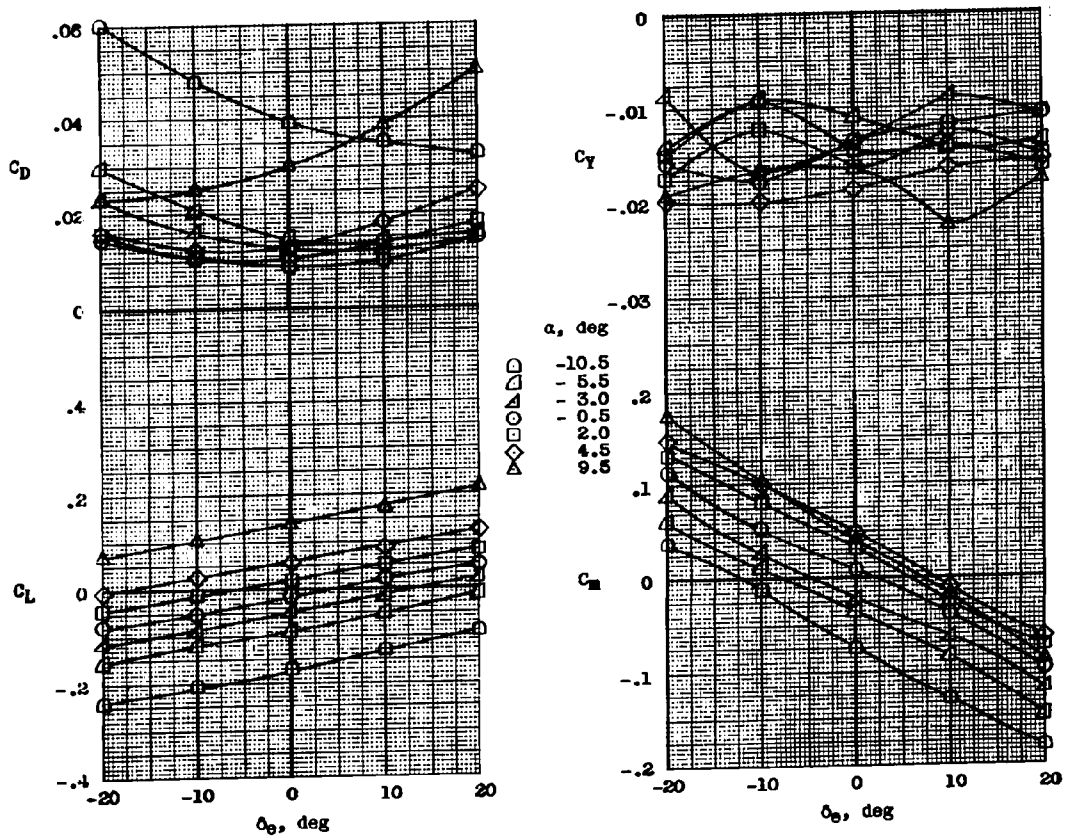
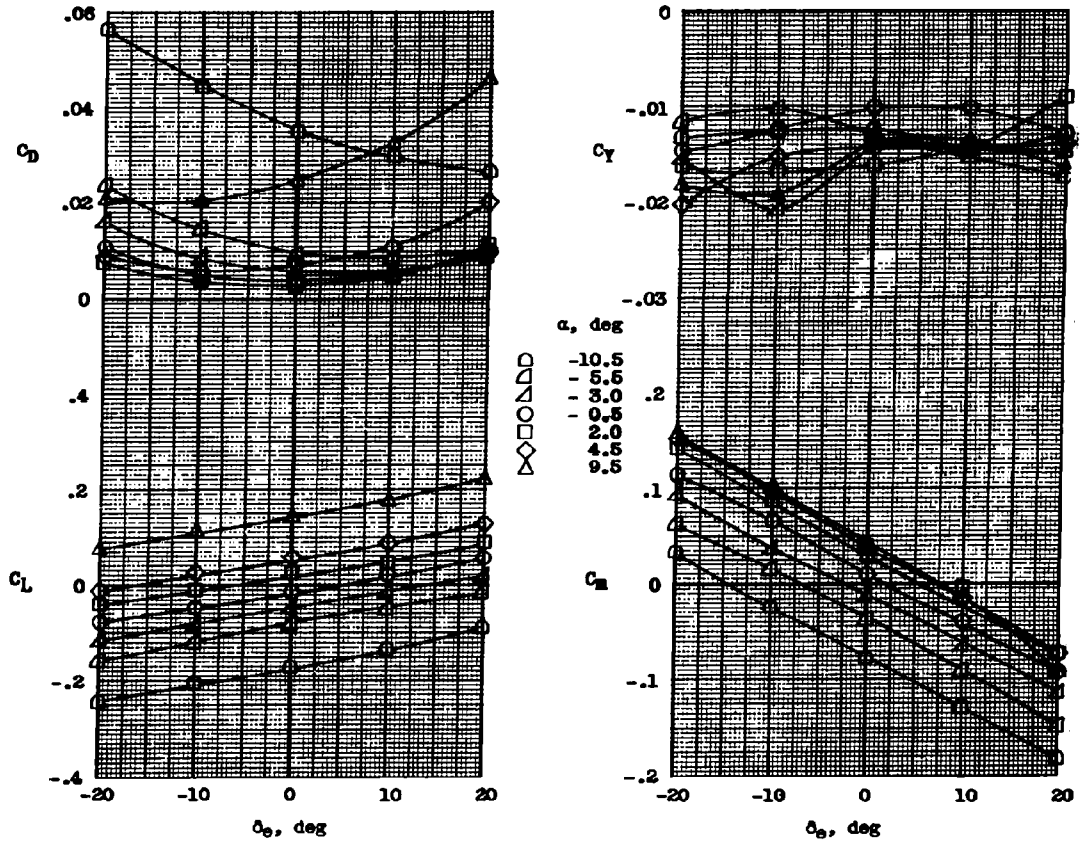


Figure 13.- Variation of the aerodynamic characteristics of the model with angle of attack with and without propeller 1 operating. $U_\infty \approx 140$ ft/sec.



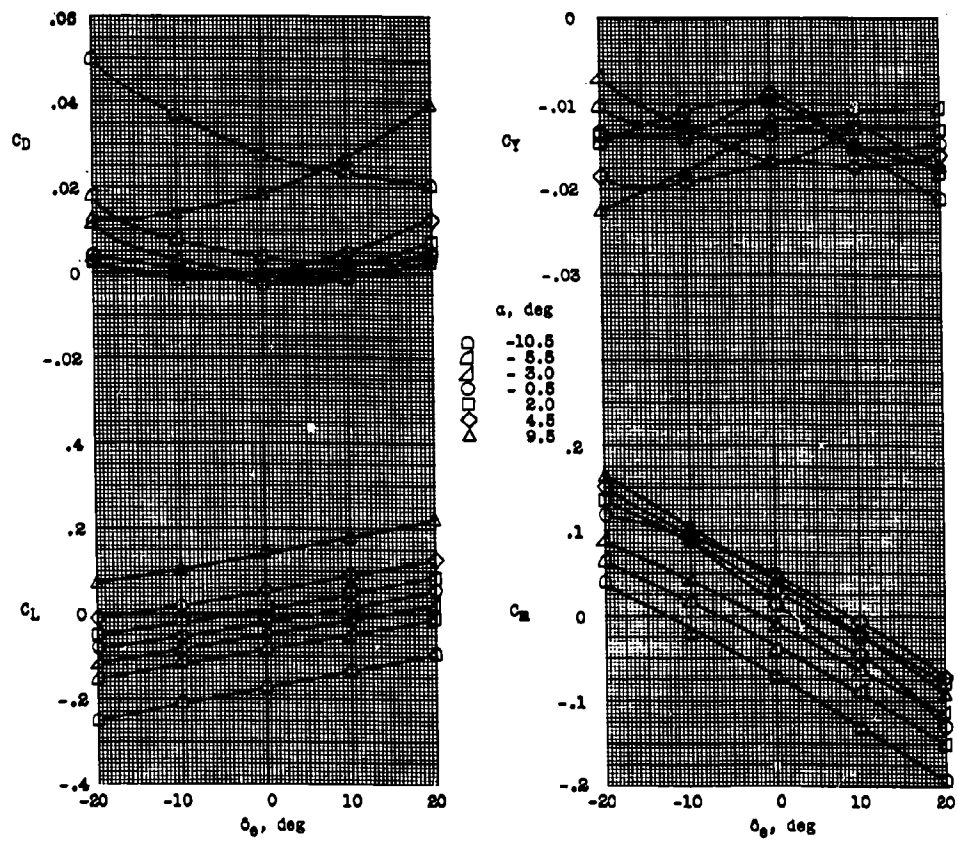
(a) $\frac{U_\infty}{nD} = 1.019, \quad n = 70.33.$

Figure 14.- The effect of elevator deflection on the aerodynamic characteristics of the model with propeller 1 installed. $\beta = 20^\circ$.



(b) $\frac{U_\infty}{nD} = 0.938, \quad n = 76.67.$

Figure 14.- Continued.



(c) $\frac{U_\infty}{nD} = 0.867, \quad n = 83.33.$

Figure 14.- Concluded.

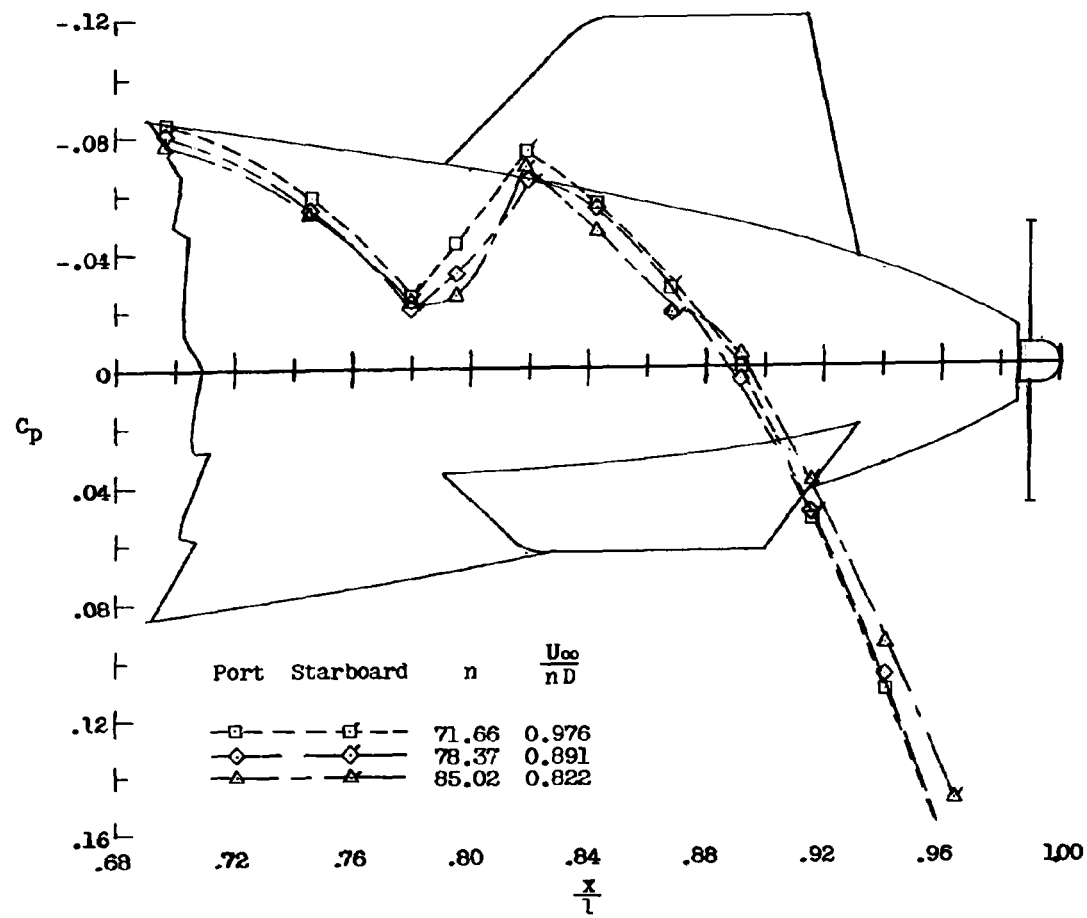


Figure 15.- Aft-hull surface-pressure coefficients with propeller 1 installed and operating. $\beta = 20^\circ$; $\alpha = -0.5^\circ$.

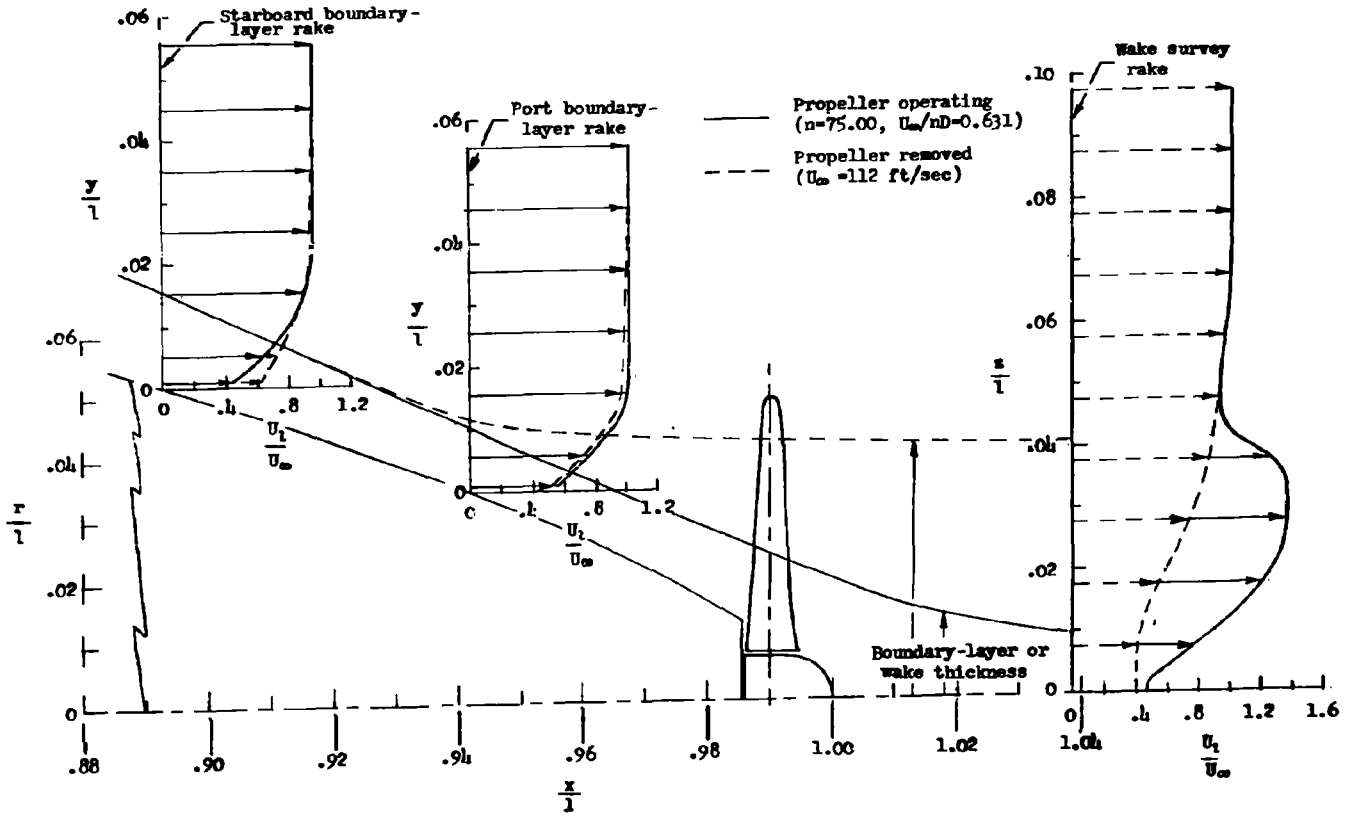


Figure 16.- Variation of the boundary-layer and wake-flow characteristics at $\alpha = -0.5^{\circ}$ with and without propeller 1 operating. Data taken from tables 1 and 3(h). The boundary-layer thickness is assumed to extend from the body to a point where $\frac{U_l}{U_\infty} = 0.9$. $\alpha = -0.5^{\circ}$.

NASA TN D-1026
National Aeronautics and Space Administration.
WIND-TUNNEL TESTS OF A 1/20-SCALE AIRSHIP MODEL WITH STERN PROPELLERS. H. Clyde McLemore. January 1962. 137p. OTS price, $2.75. (NASA TECHNICAL NOTE D-1026)

The investigation conducted in the Langley full-scale tunnel included tests of two different propellers and included measurements of propeller thrust and power characteristics, airship force and moment characteristics, hull pressure distributions, and hull boundary-layer and wake characteristics. The tests showed that a stern-mounted propeller can give a much higher propulsive efficiency than that of a conventional-mounted- or a fin-mounted-propeller installation. In general, stern-propeller operation was found to have only very small effects on the model aerodynamic characteristics.

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